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Coal Resources of Greene
County, Pennsylvania

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Mineral Resource Report 86
Part 1

1984

c.1

COAL RESOURCES OF GREENE COUNTY, PENNSYLVANIA

PART 1. COAL CROP LINES, MINED-OUT AREAS, AND STRUCTURE CONTOURS

Compiled by
Clifford H. Dodge
Albert D. Glover

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT
BUREAU OF
TOPOGRAPHIC AND GEOLOGIC SURVEY
Arthur A. Socolow, State Geologist

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Mineral Resource Report 86
Part 1

COAL RESOURCES OF GREENE COUNTY, PENNSYLVANIA

PART 1. COAL CROP LINES, MINED-OUT AREAS, AND STRUCTURE CONTOURS

Compiled by Clifford H. Dodge and Albert D. Glover
Pennsylvania Geological Survey

PENNSYLVANIA GEOLOGICAL SURVEY

FOURTH SERIES

HARRISBURG

1984

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COAL RESOURCES OF GREENE COUNTY, PENNSYLVANIA

PART 1. COAL CROP LINES, MINED-OUT AREAS, AND STRUCTURE CONTOURS

Compiled by
Clifford H. Dodge and Albert D. Glover

INTRODUCTION

An important function of the Bureau of Topographic and Geologic Survey is to provide accurate, timely information on Pennsylvania's bituminous coal. To achieve this goal, the Bureau is working in cooperation with the U.S. Geological Survey to establish the National Coal Resources Data System (NCRDS). NCRDS is a computer data system developed by the U.S. Geological Survey to facilitate coal-resource calculations for the nation on a county-by-county and seam-by-seam basis, and to produce various kinds of tables and maps of coal characteristics.

Before NCRDS can be used for a particular bituminous-coal-producing county, all available data on the coal must be entered into the computer system. These data include site-specific (point-location) stratigraphic measurements and coal analyses, and specific map elements compiled on 7½-minute topographic quadrangle maps. The map elements, which include coal outcrop lines and mined-out areas, are digitized and stored in the system for subsequent computer manipulations.

Inasmuch as the maps showing coal outcrop lines and mined-out areas are in constant demand by the coal industry, consultants, planners, government personnel, and academicians, they are being made available in this publication. These maps will be of considerable help in planning exploration programs, land acquisition, land use planning, and environmental protection.

Two kinds of coal maps may be included for each 7½-minute topographic quadrangle map covering Greene County (Figure 1). First, for each of the principal coal seams in a given quadrangle, there is a map showing (1) the coal outcrop (crop line); (2) areas where the coal is known to be absent because of seam discontinuities; and (3) the extent of all known strip and deep mining up to the time of compilation (1979, 1984). Second, for each quadrangle,

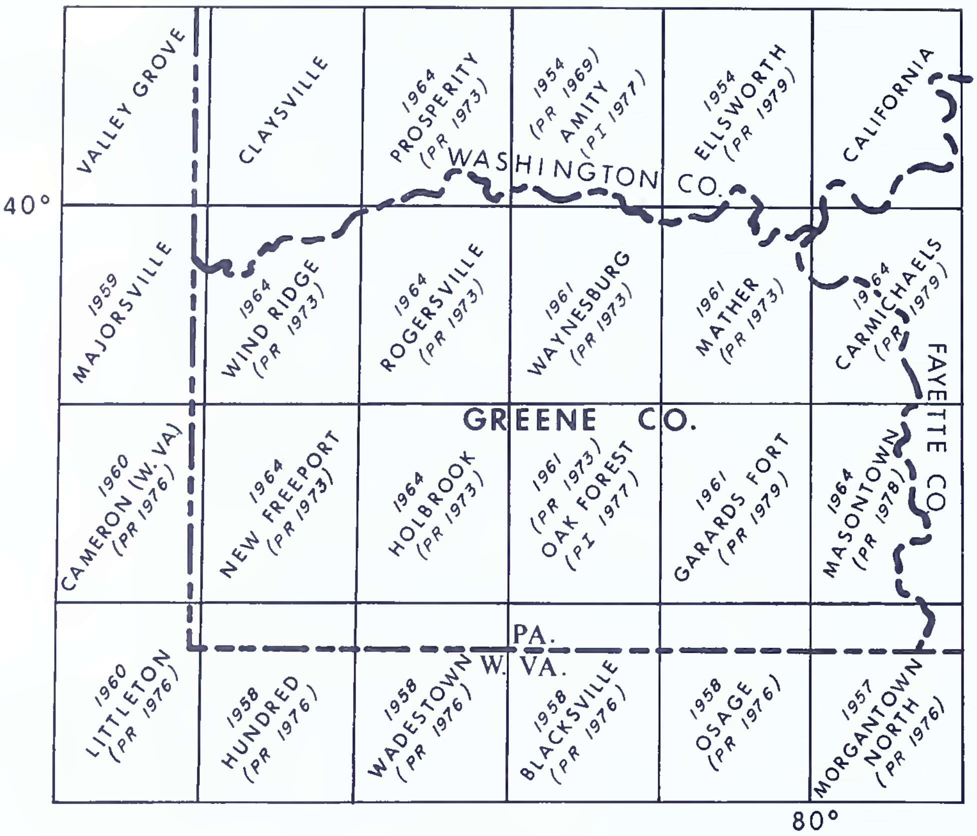

VALLEY GROVE
CLAYSVILLE
1964 PROSPERITY (PR 1973)
1954 (PR 1969) AMITY (PI 1977)
1954 ELLSWORTH (PR 1979)
CALIFORNIA
WASHINGTON CO.
40°
1959 MAJORSVILLE
1964 WIND RIDGE (PR 1973)
1964 ROGERSVILLE (PR 1973)
1961 WAYNESBURG (PR 1973)
1961 MATHER (PR 1973)
1964 CARMICHAELS (PR 1979)
GREENE CO.
FAYETTE CO.
1960 CAMERON (W. VA.) (PR 1976)
1964 NEW FREEPORT (PR 1973)
1964 HOLBROOK (PR 1973)
1961 (PR 1973) OAK FOREST (PI 1977)
1961 GARARDS FORT (PR 1979)
1964 MASONTOWN (PR 1978)
PA.
W. VA.
1960 LITTLETON (PR 1976)
1958 HUNDRED (PR 1976)
1958 WADESTOWN (PR 1976)
1958 BLACKSVILLE (PR 1976)
1958 OSAGE (PR 1976)
1957 MORGANTOWN NORTH (PR 1976)
80°

Figure 1. Index map of 7½-minute quadrangles in Greene County. Date of publication of topographic quadrangle map is shown in italic type. Dates of photorevision (PR) and photoinspection (PI) are shown in parentheses.

there is a composite coal-crop map that includes structure contours and fold axes. If none of the principal coals has been mined or crops out in a particular quadrangle, only the second kind of map is presented. The maps contain information on sources of published and unpublished data, map reliability, map symbols, structure-contour intervals and datums, and names of fold axes. The general layout of the compilation maps is shown in Figure 2.

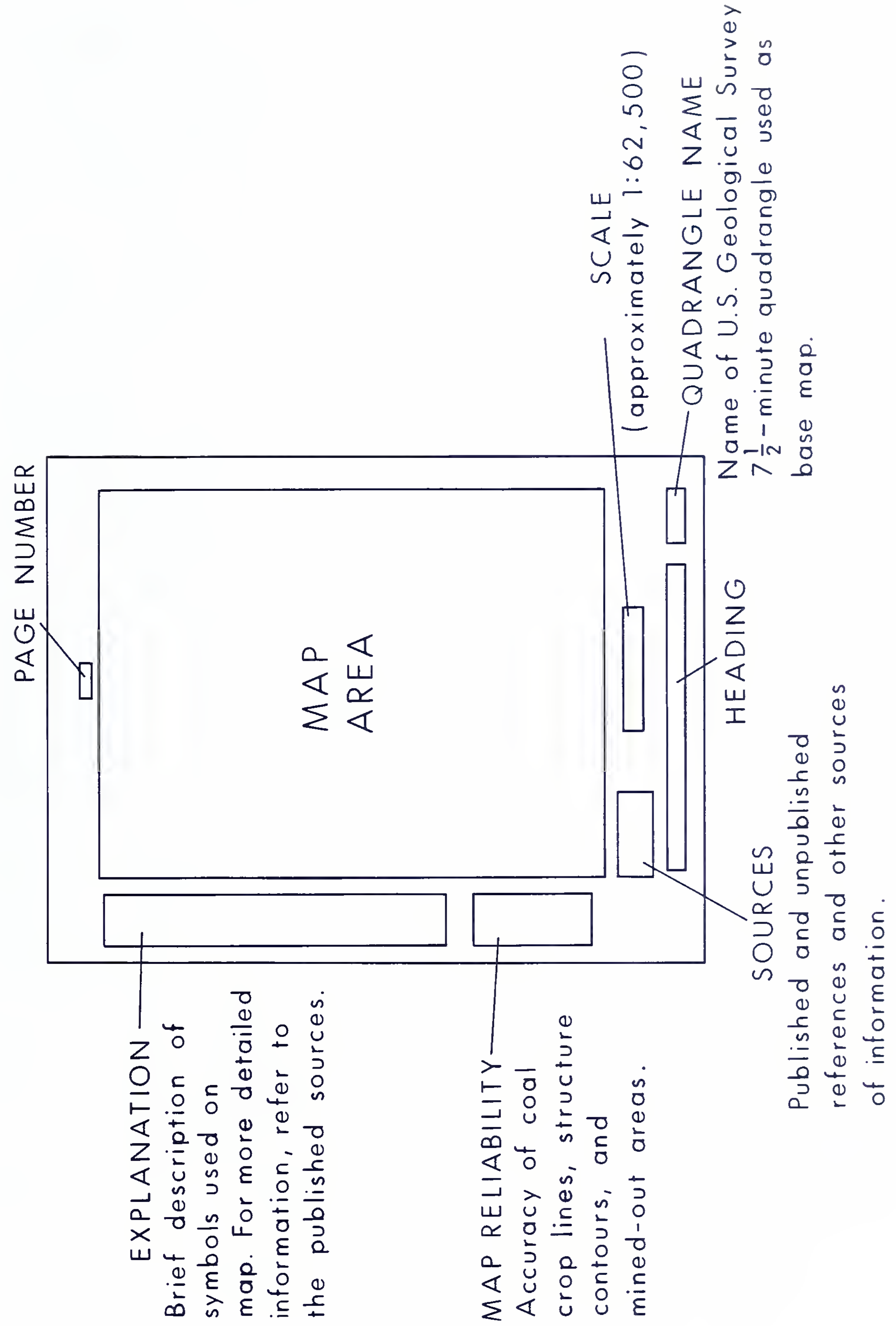

PAGE NUMBER
MAP AREA
SCALE
(approximately 1:62,500)
QUADRANGLE NAME
Name of U.S. Geological Survey $7\frac{1}{2}$-minute quadrangle used as base map.
HEADING
SOURCES
Published and unpublished references and other sources of information.
EXPLANATION
Brief description of symbols used on map. For more detailed information, refer to the published sources.
MAP RELIABILITY
Accuracy of coal crop lines, structure contours, and mined-out areas.

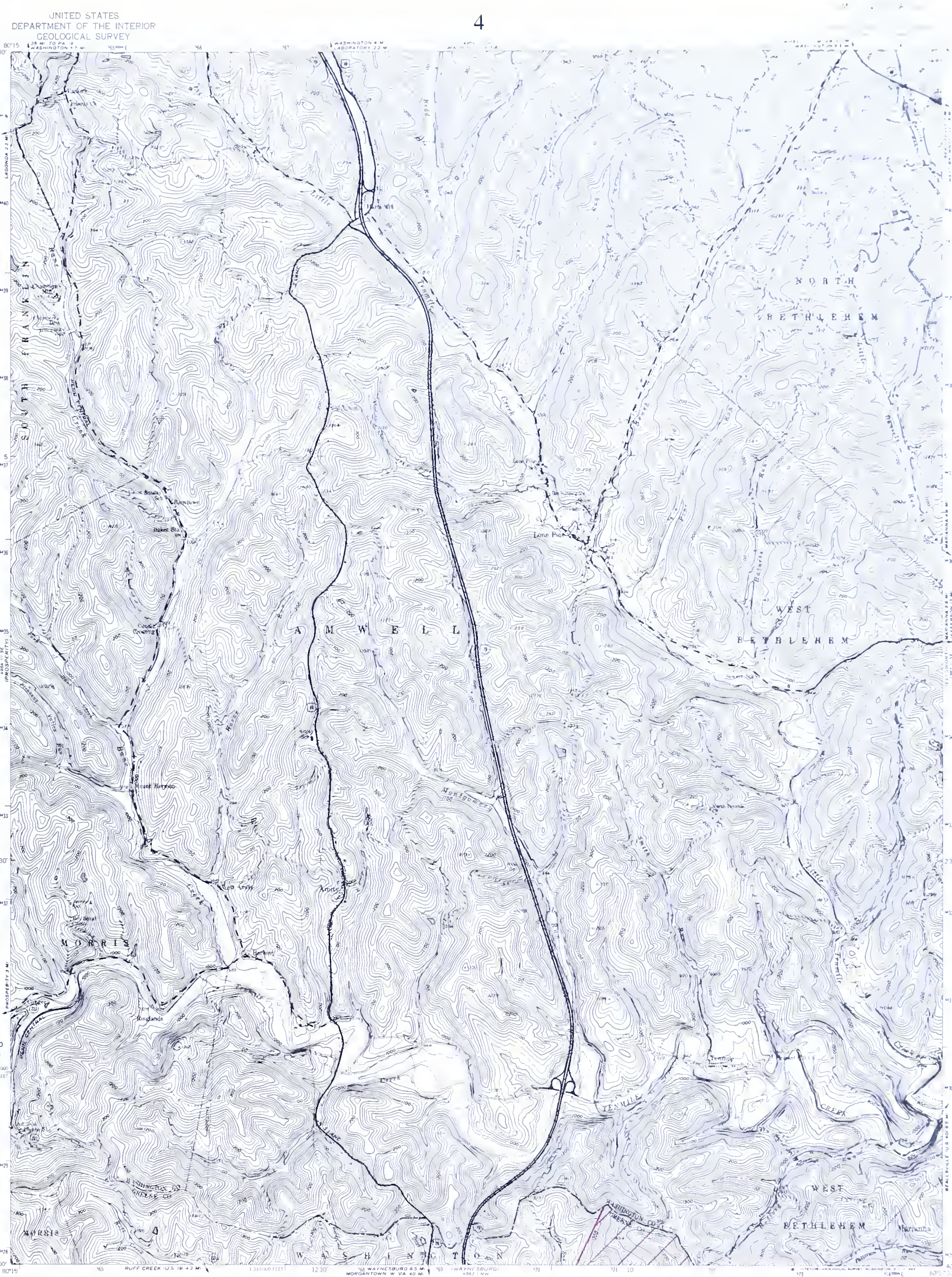
Figure 2. Guide to layout of compilation maps.

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

SCALE 1:62500

CONTOUR INTERVAL 20 FEET

DATUM IS MEAN SEA LEVEL

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION

Heavy duty — Light duty

Medium duty — Unimproved dirt

Interstate Route — U.S. Route — State Route

AMITY

MINED-OUT AREA OF THE

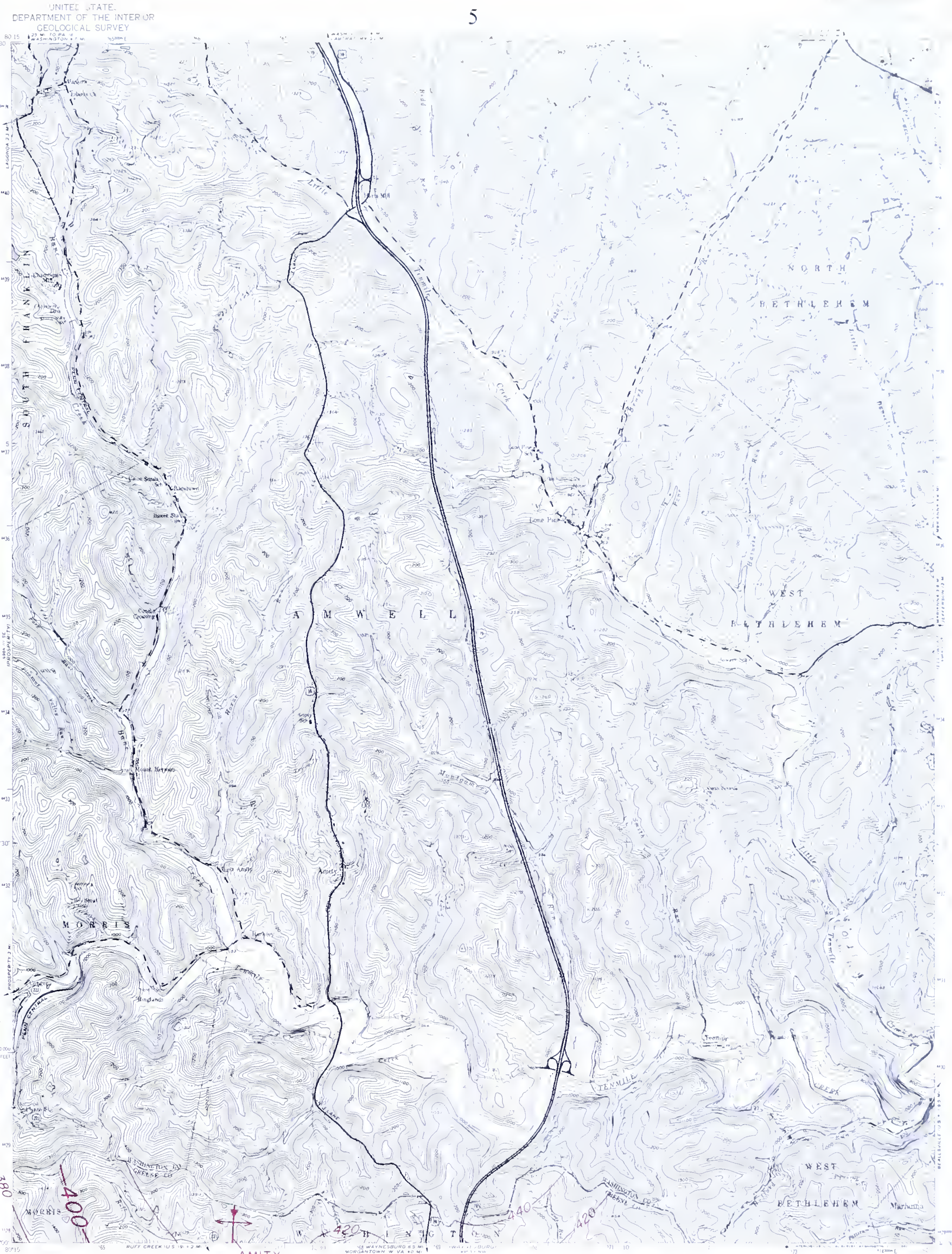
PITTSBURGH COAL

EXPLANATION

Anticline
Showing axial-plane trace and direction of plunge

400

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.



MAP RELIABILITY

Structure contours—very good

SOURCE

Structure contours from Berryhill, H. L., Jr (1964), *Geology of the Amity quadrangle, Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-296, scale 1:24,000

STRUCTURE CONTOURS

AMITY

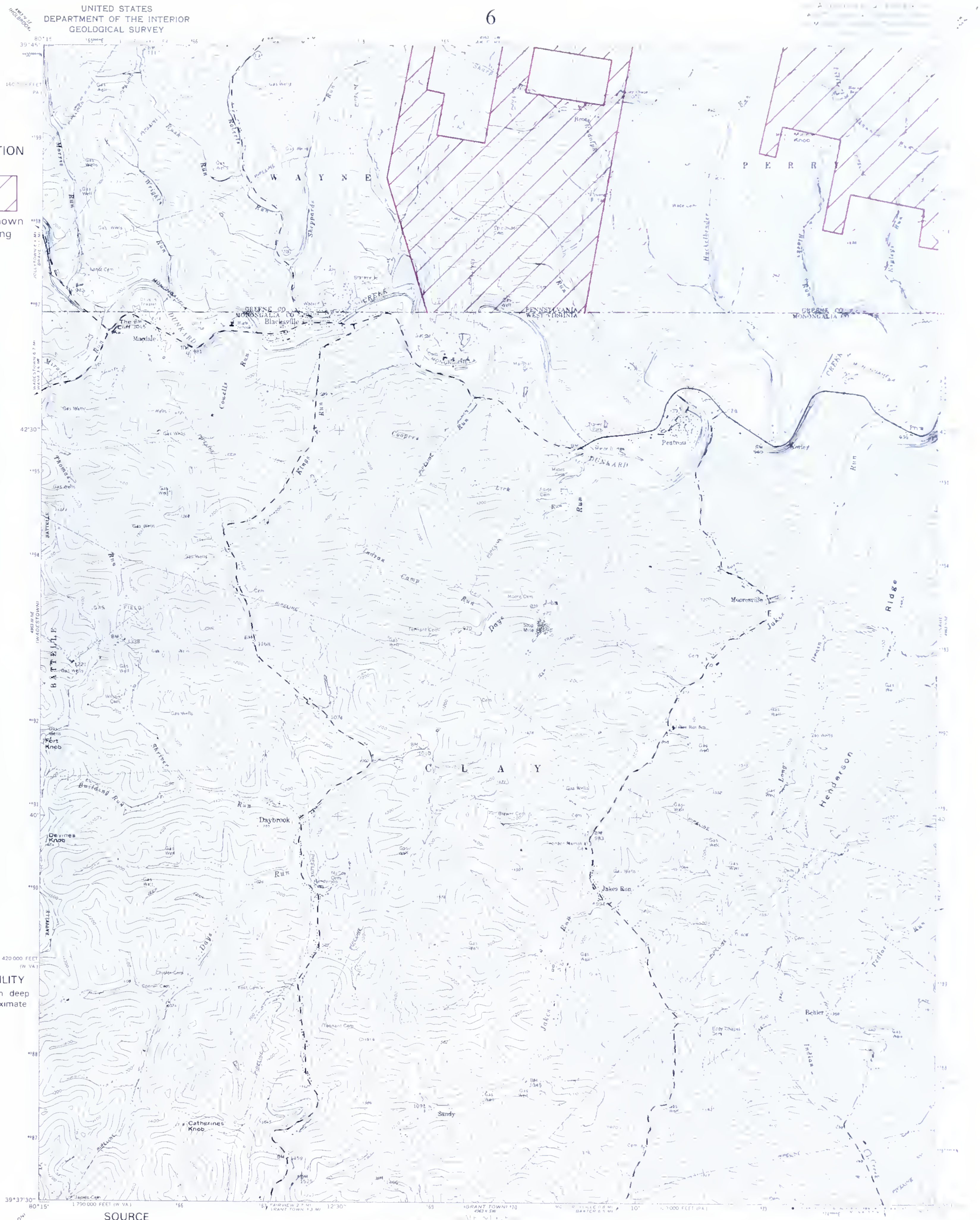
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources. Bureau of Mining and Reclamation (1978), unpublished map.

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MINED-OUT AREAS OF THE
PITTSBURGH COAL

BLACKSVILLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

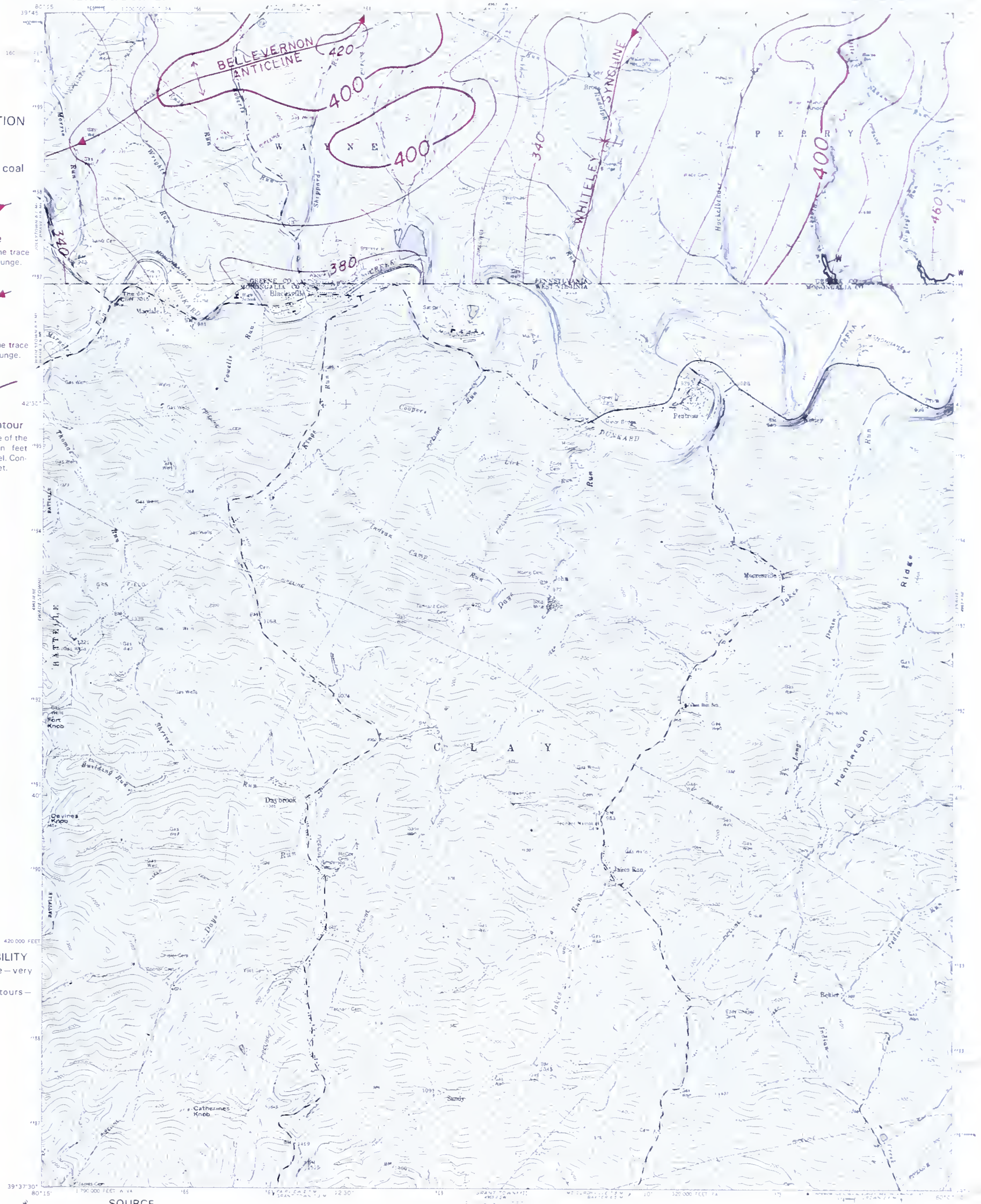
EXPLANATION

W
Washington coal

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

400
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.



MAP RELIABILITY
Coal crop line—very good
Structure contours—very good

SOURCE

Crop line and structure contours from Roen, J. B. (1972), *Geologic map of the Oak Forest quadrangle and part of the Blacksville quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-699, scale 1:24,000. Structure contours modified slightly by C. H. Dodge.

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

COAL CROP LINE AND STRUCTURE CONTOURS

BLACKSVILLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Anticline
Showing axial-plane trace and direction of plunge.

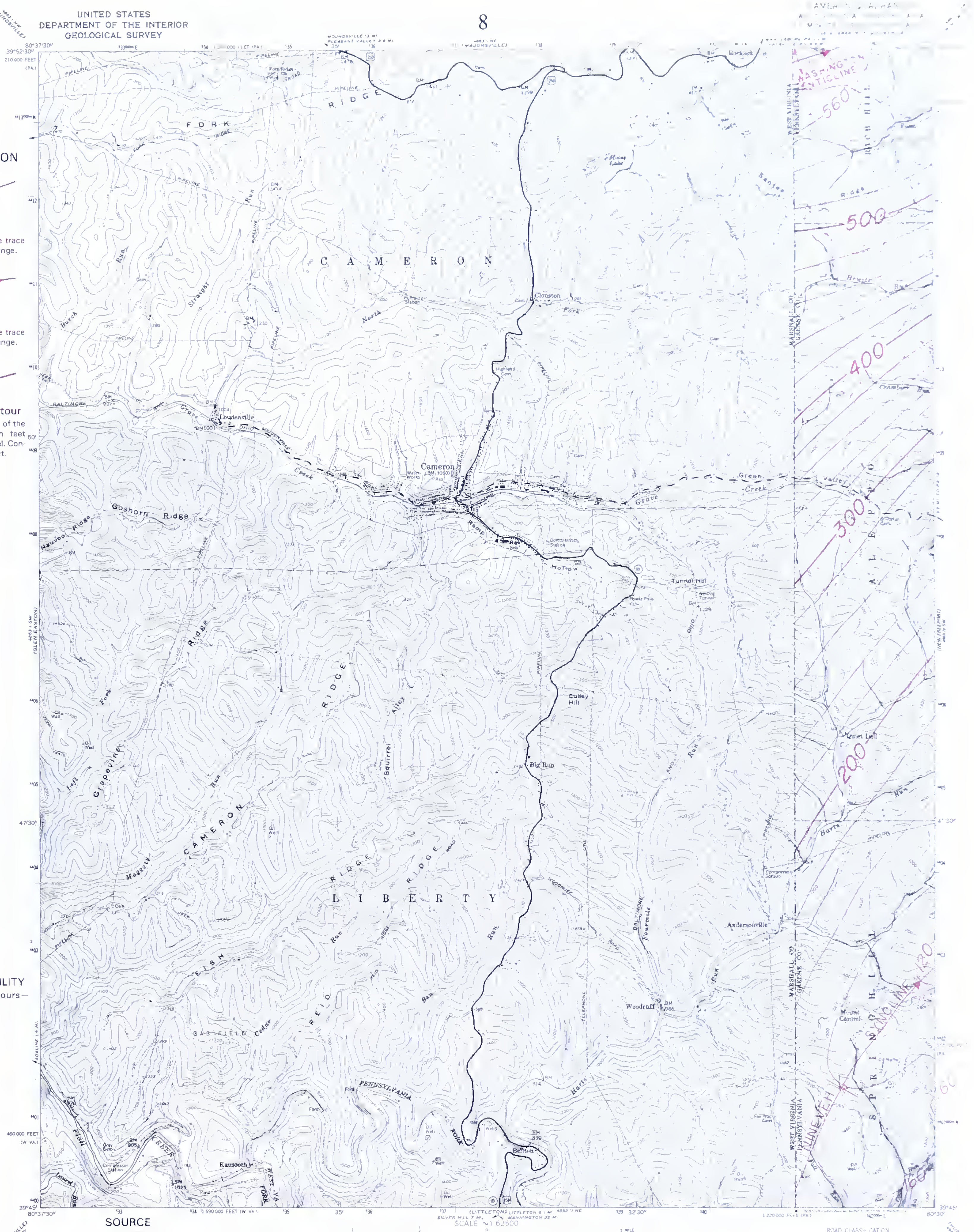
Syncline
Showing axial-plane trace and direction of plunge.

200

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Structure contours—good



SOURCE

Structure contours modified by C. H. Dodge from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania.* Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

STRUCTURE CONTOURS

CAMERON
(W. Va.)

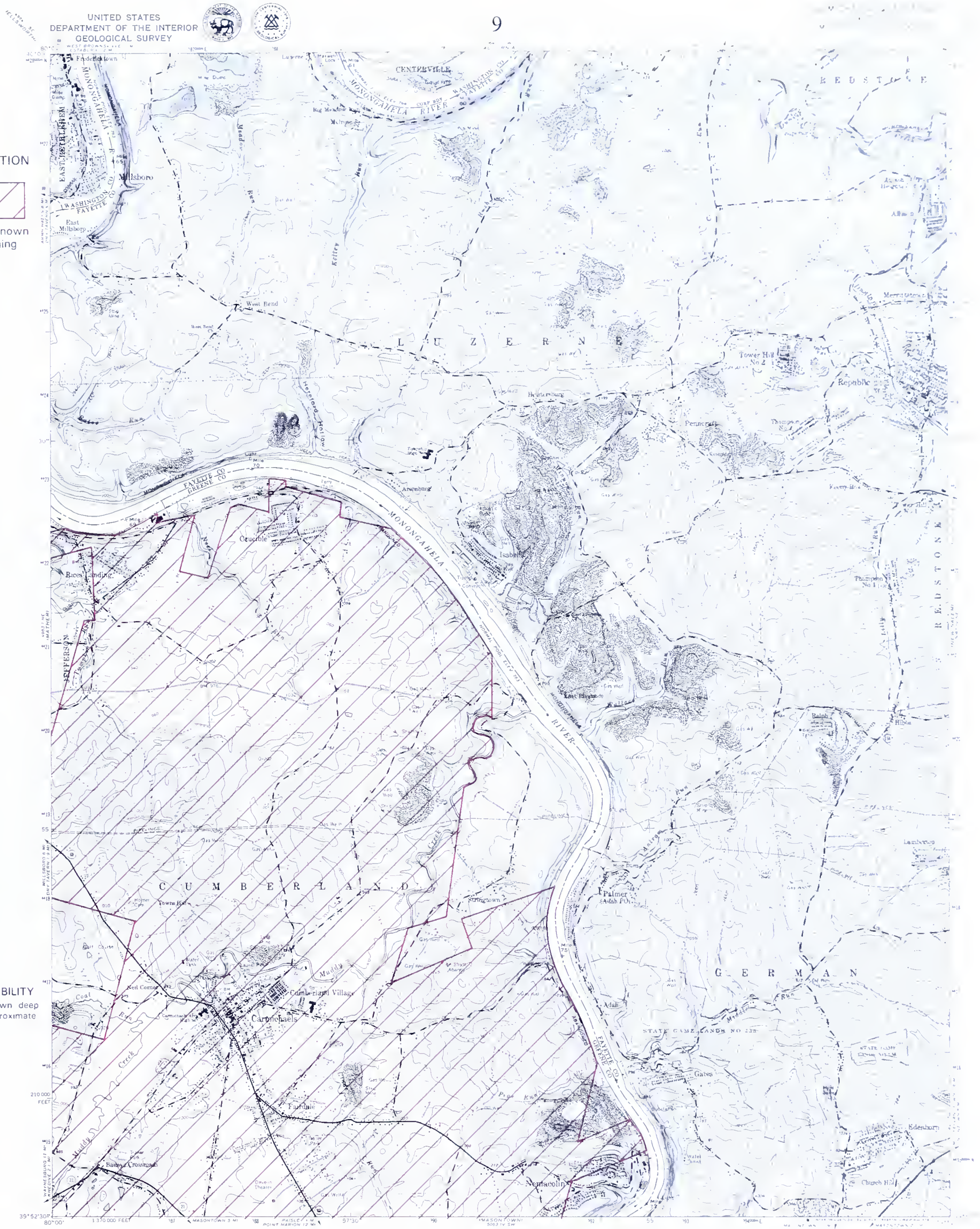
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MINED-OUT AREA OF THE

PITTSBURGH COAL

CARMICHAELS

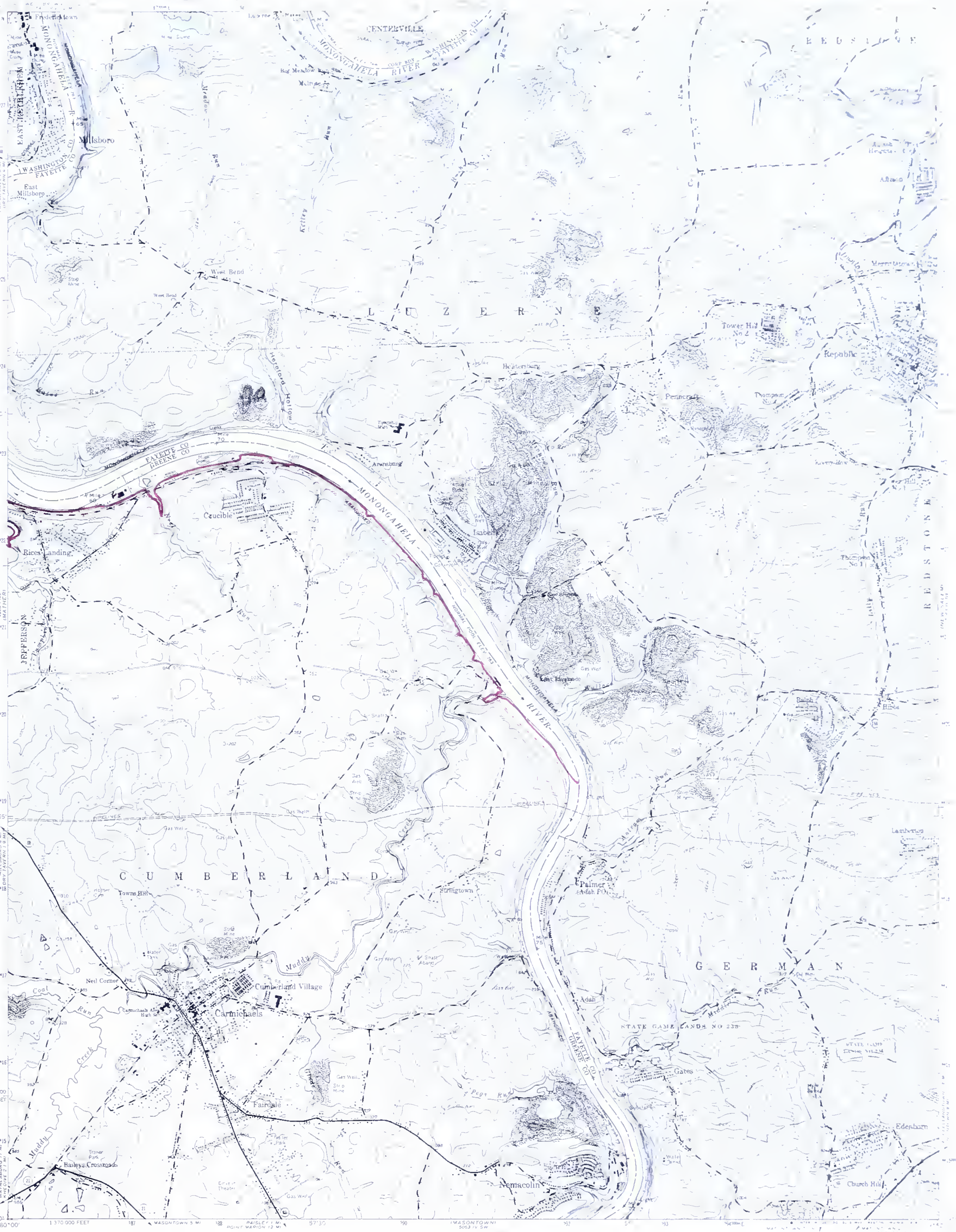
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Sewickley coal

MAP RELIABILITY

Coal crop line—very good



SOURCE

Crop line from Kent, B. H. (1969), *Geologic map of part of the Carmichaels quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-588, scale 1:24,000.

CROP LINE OF THE

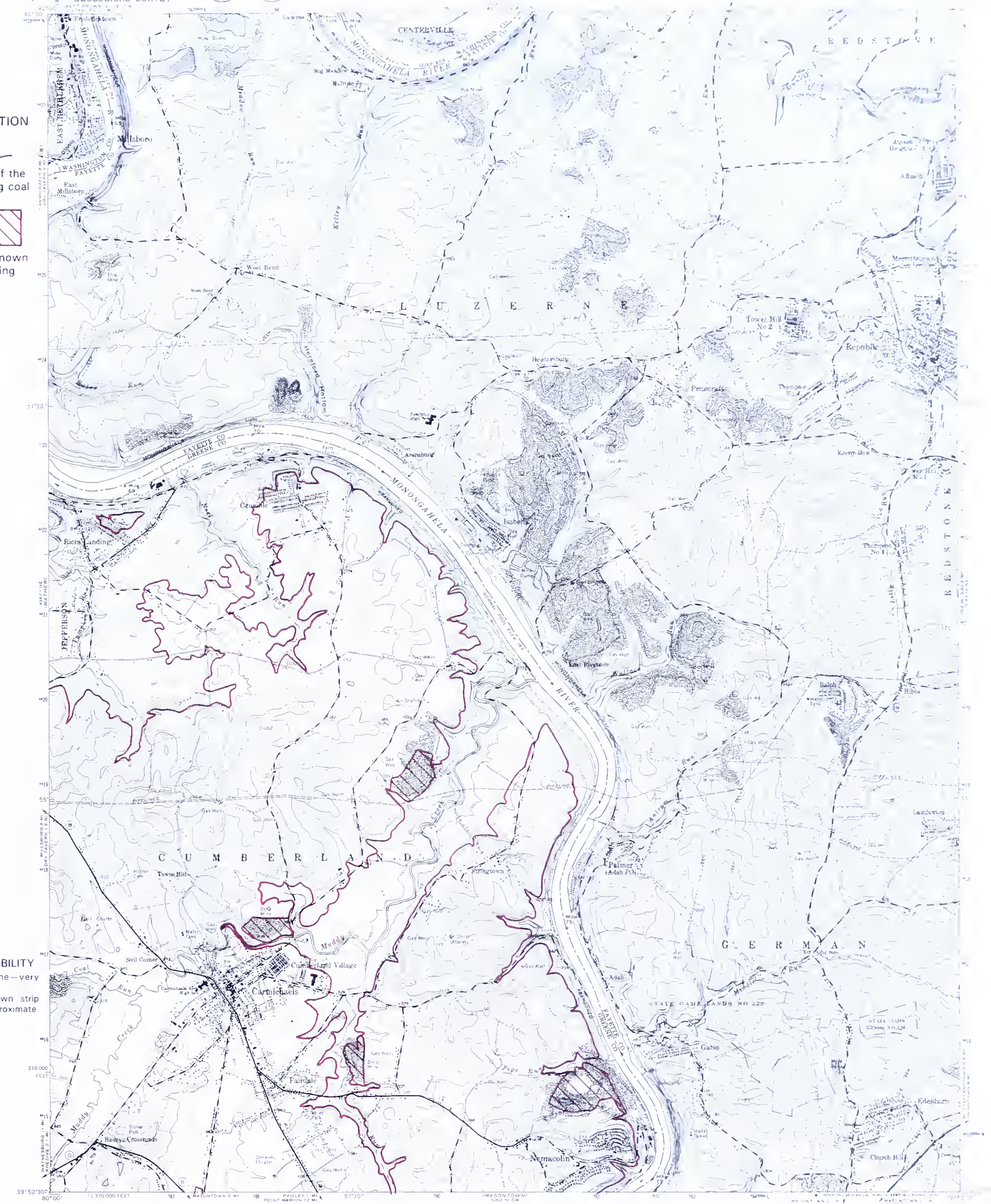
SEWICKLEY COAL

CARMICHAELS

EXPLANATION

Crop line of the Waynesburg coal

▨ Extent of known strip mining



SCALE 1:62500

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION

Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
State Route

PENNSYLVANIA
QUADRANGLE LOCATION

MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1969), *Geologic map of part of the Carmichaels quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-588, scale 1 24,000.
Limits of strip mining based on interpretation of topographic map and on field work

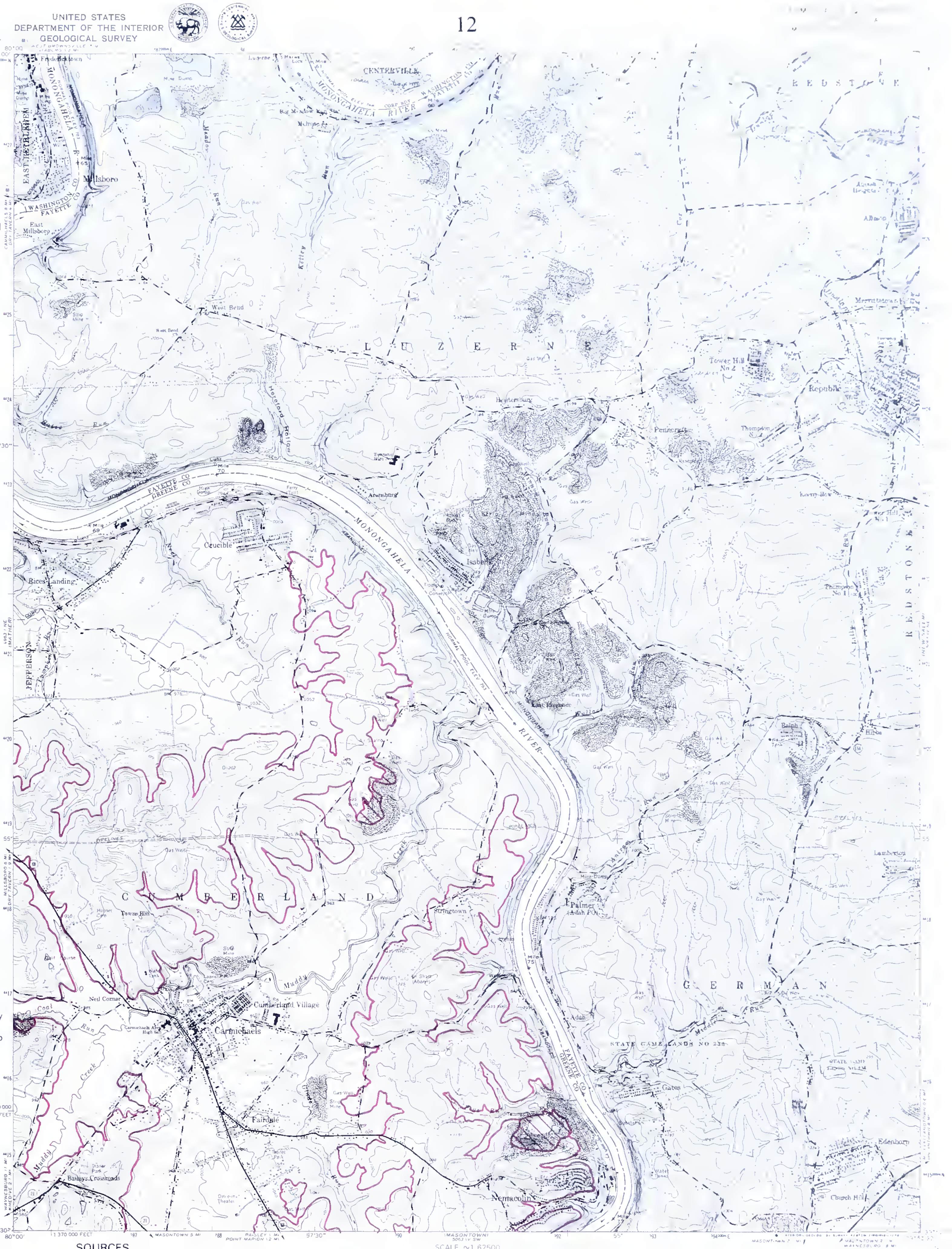
CROP LINE AND MINED-OUT AREAS OF THE WAYNESBURG COAL

CARMICHAELS

EXPLANATION

Crop line of the Waynesburg A coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1969), *Geologic map of part of the Carmichaels quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-588, scale 1:24,000.
Limits of strip mining based on interpretation of topographic map and on field work.

SCALE ~1 62500

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

CROP LINE AND MINED-OUT AREAS OF THE

WAYNESBURG A COAL

CARMICHAELS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

s
Sewickley coal

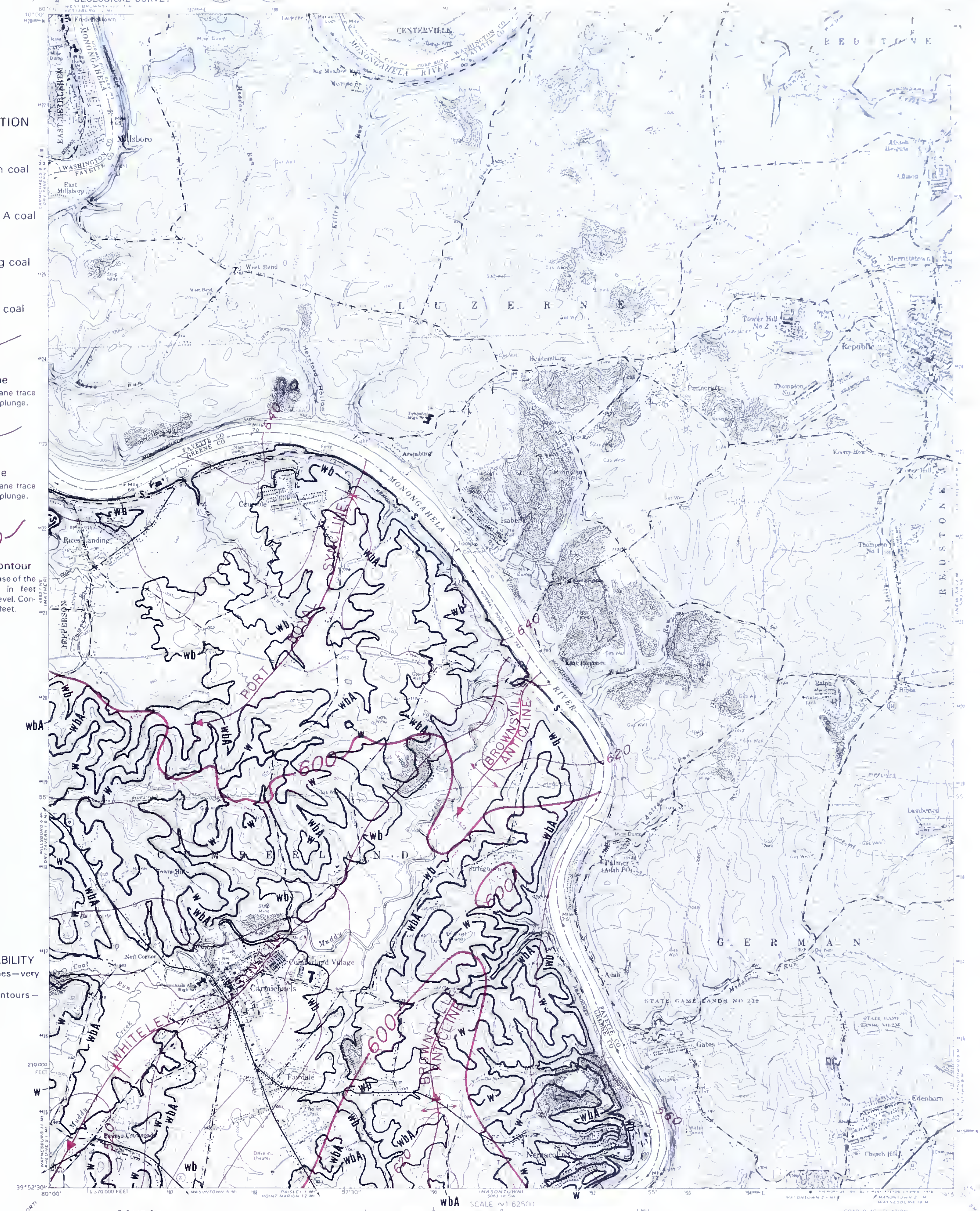
Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

600

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY
Coal crop lines—very good
Structure contours—very good



SCALE 1:62500

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SOURCE

Crop lines and structure contours from Kent, B. H. (1969), *Geologic map of part of the Carmichaels quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-588, scale 1:24,000.

COAL CROP LINES AND STRUCTURE CONTOURS

CARMICHAELS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

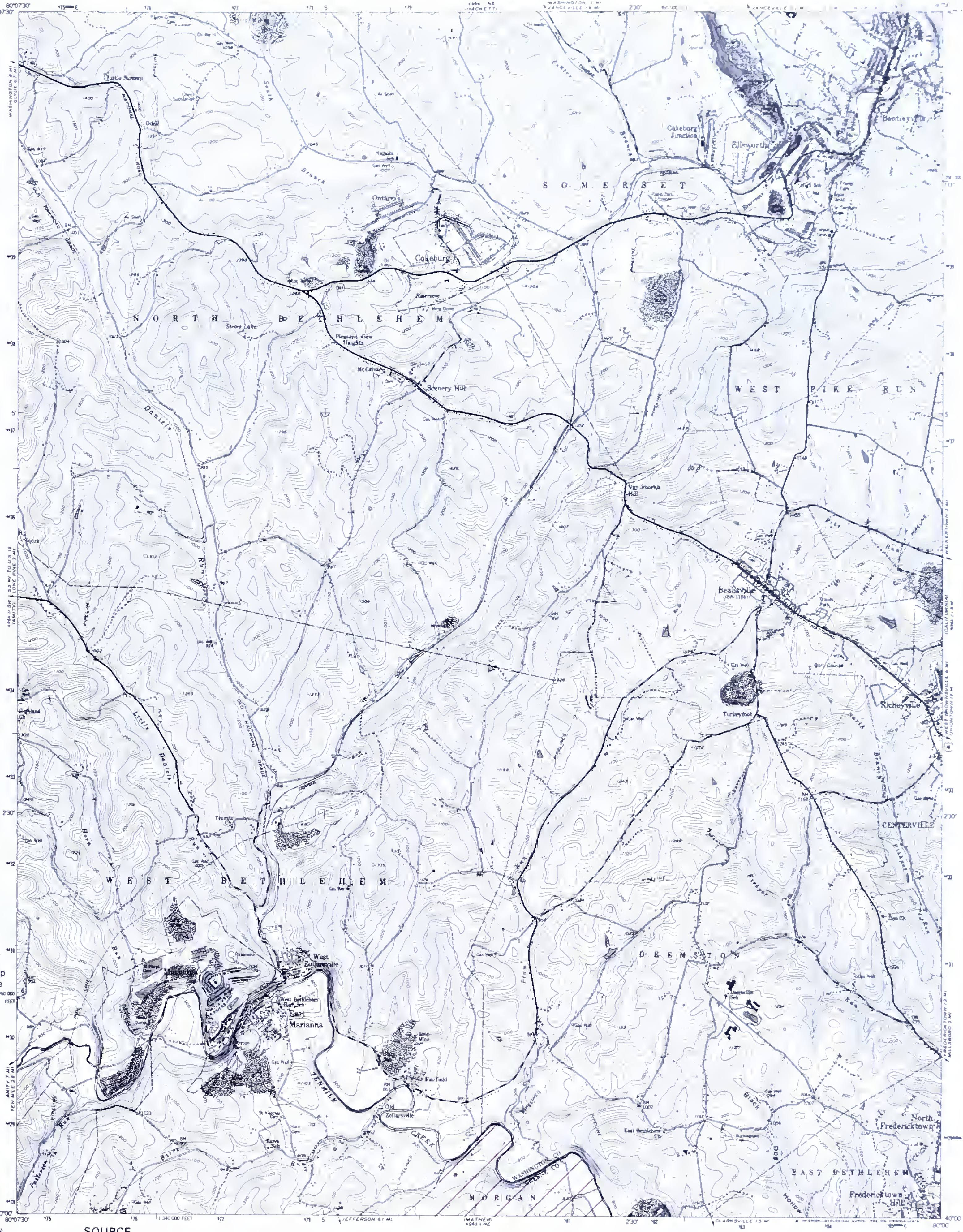
ELLSWORTH QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

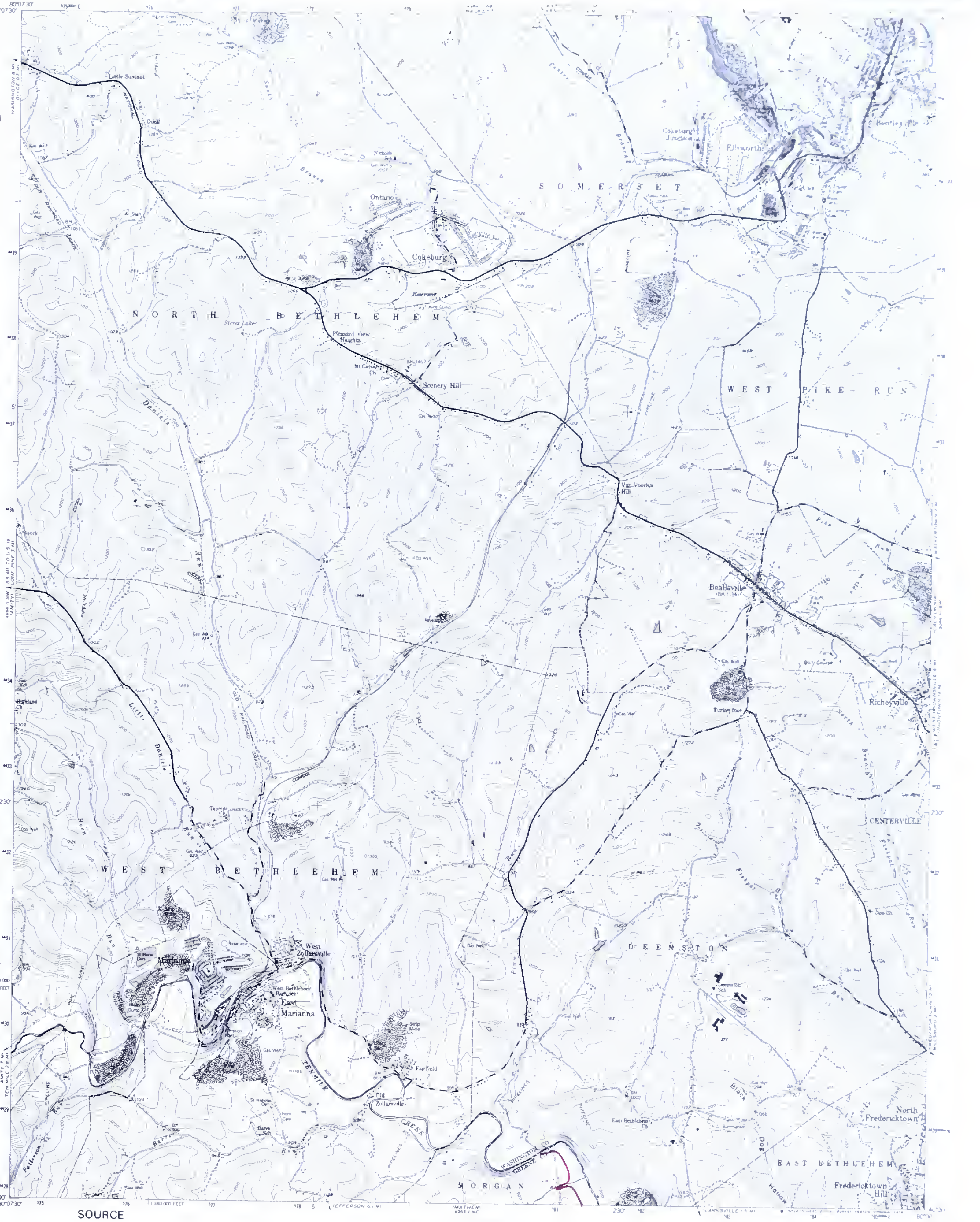
MINED-OUT AREA OF THE
PITTSBURGH COAL

ELLSWORTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Sewickley coal



MAP RELIABILITY

Coal crop line—very good

SOURCE

Crop line from Berryhill, H. L., Jr., and Schweinfurth, S. P. (1964), *Geology of the Ellsworth quadrangle, Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-333, scale 1:24,000.

CROP LINE OF THE SEWICKLEY COAL

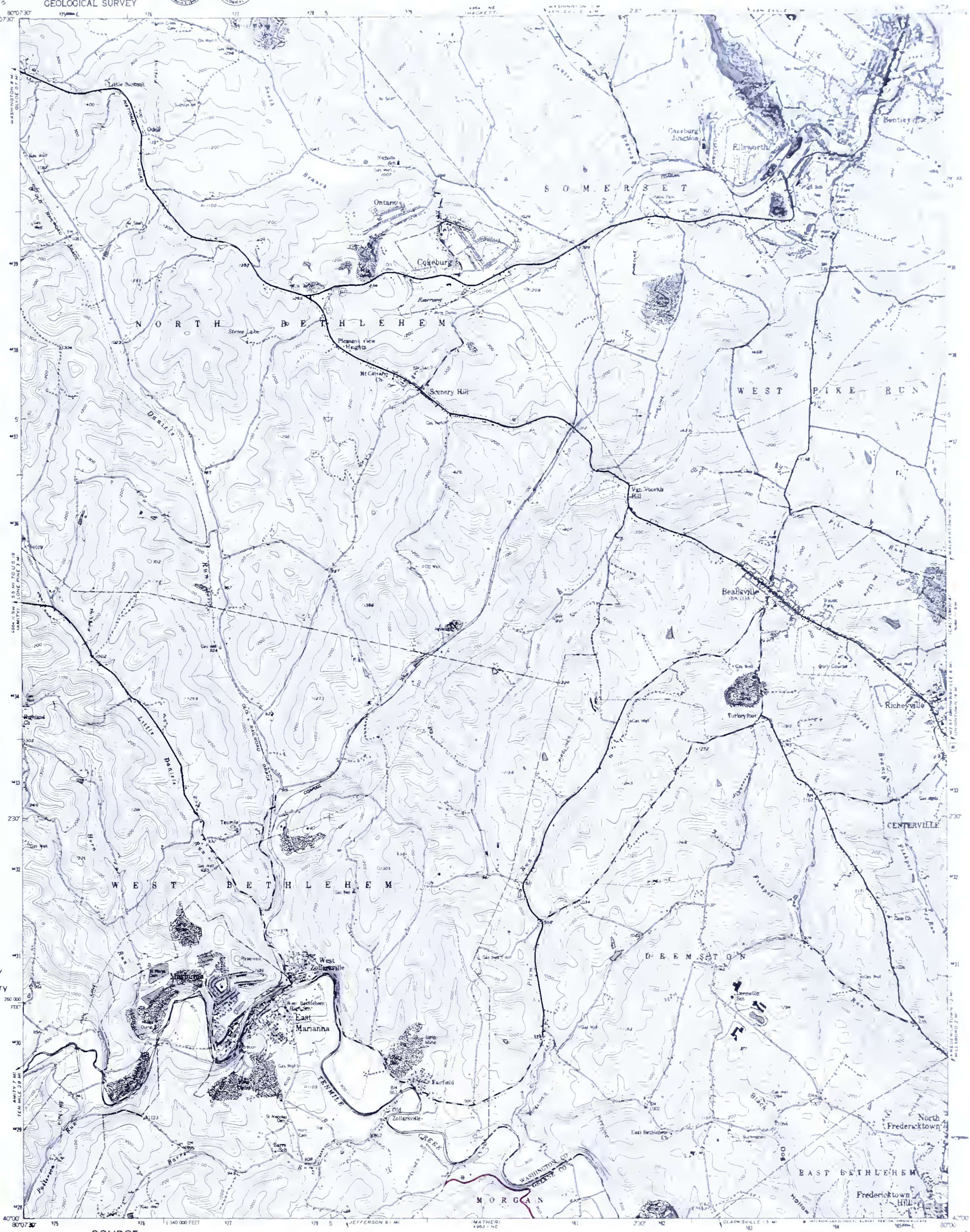
ELLSWORTH

EXPLANATION

Crop line of the Waynesburg coal

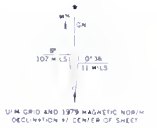
MAP RELIABILITY

Coal crop line—very good



SOURCE

Crop line from Berryhill, H. L., Jr., and Schweinfurth, S. P. (1964), *Geology of the Ellsworth quadrangle, Pennsylvania,* U.S. Geological Survey Geologic Quadrangle Map GQ-333, scale 1:24,000



UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE ~1 62500

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Heavy-duty — Light-duty

Medium-duty — Unimproved dirt

U S Route — State Route

ELLSWORTH

CROP LINE OF THE
WAYNESBURG COAL

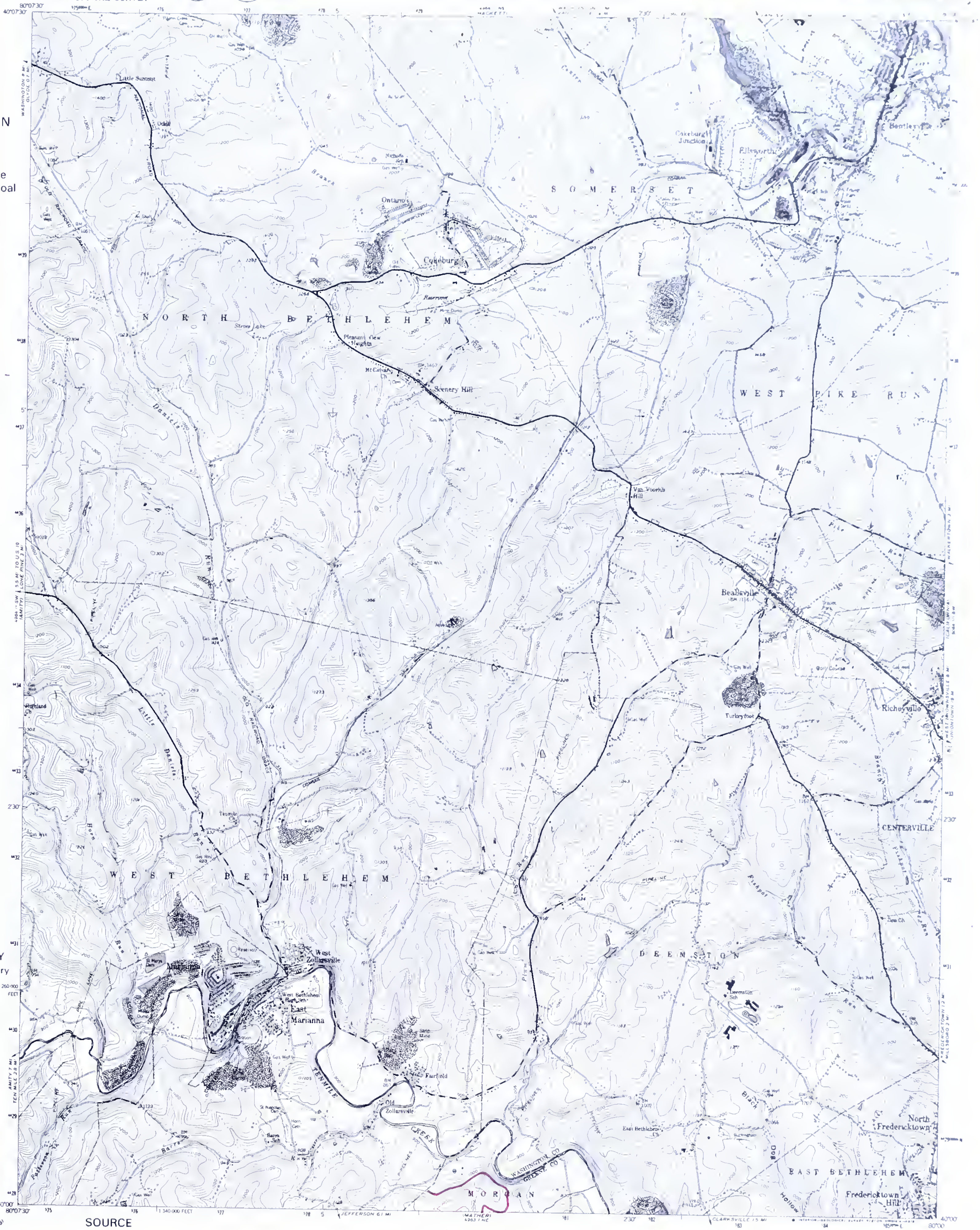
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

MAP RELIABILITY

Coal crop line—very good



SOURCE

Crop line from Berryhill, H. L., Jr., and Schweinfurth, S. P. (1964), *Geology of the Ellsworth quadrangle, Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-333, scale 1:24,000.

CROP LINE OF THE

WAYNESBURG A COAL

ELLSWORTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

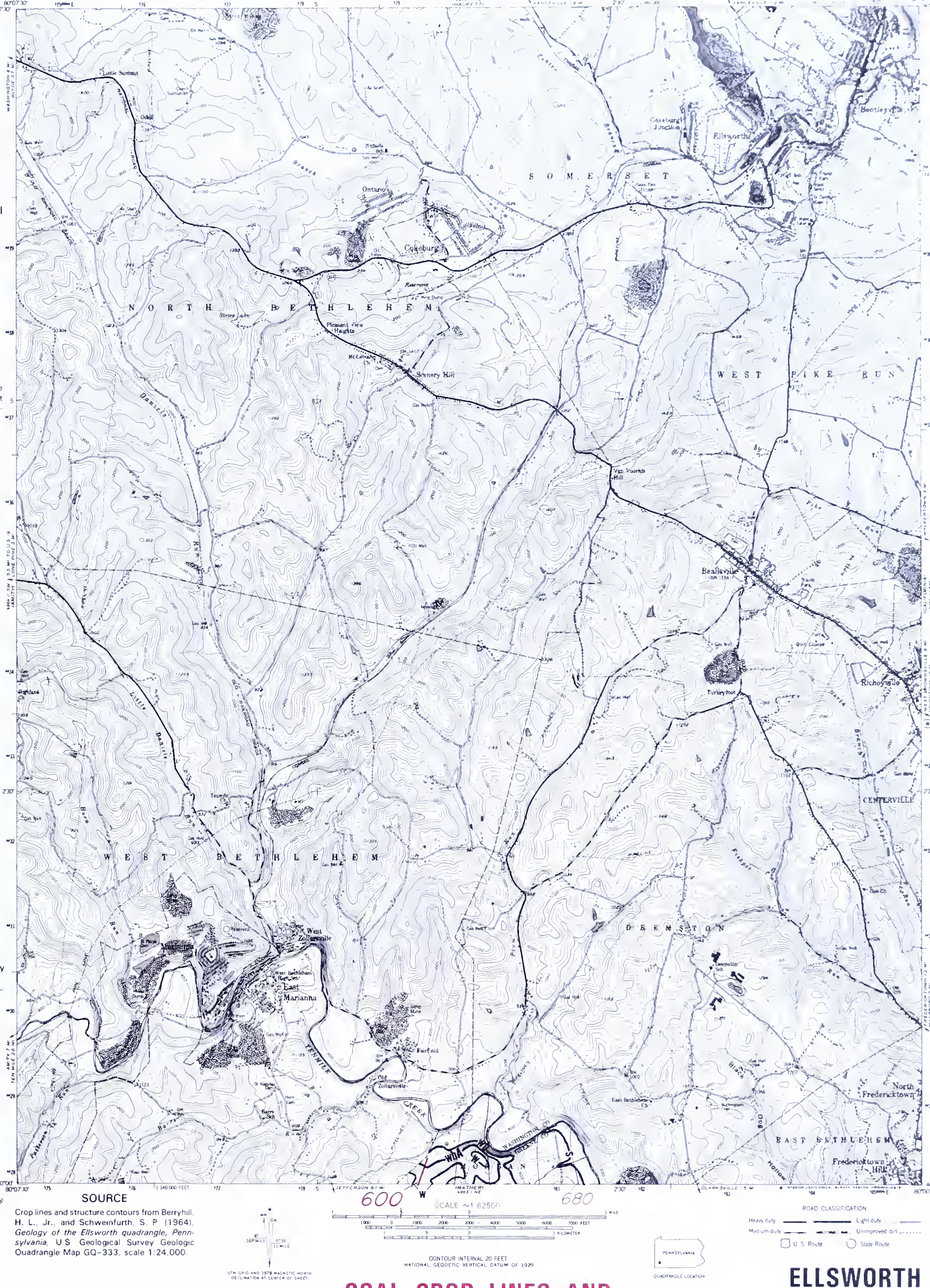
w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

s
Sewickley coal

—600—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet



MAP RELIABILITY

Coal crop lines—very good

Structure contours—very good

SOURCE

Crop lines and structure contours from Berryhill, H. L., Jr., and Schweinfurth, S. P. (1964), *Geology of the Ellsworth quadrangle, Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-333, scale 1:24,000.

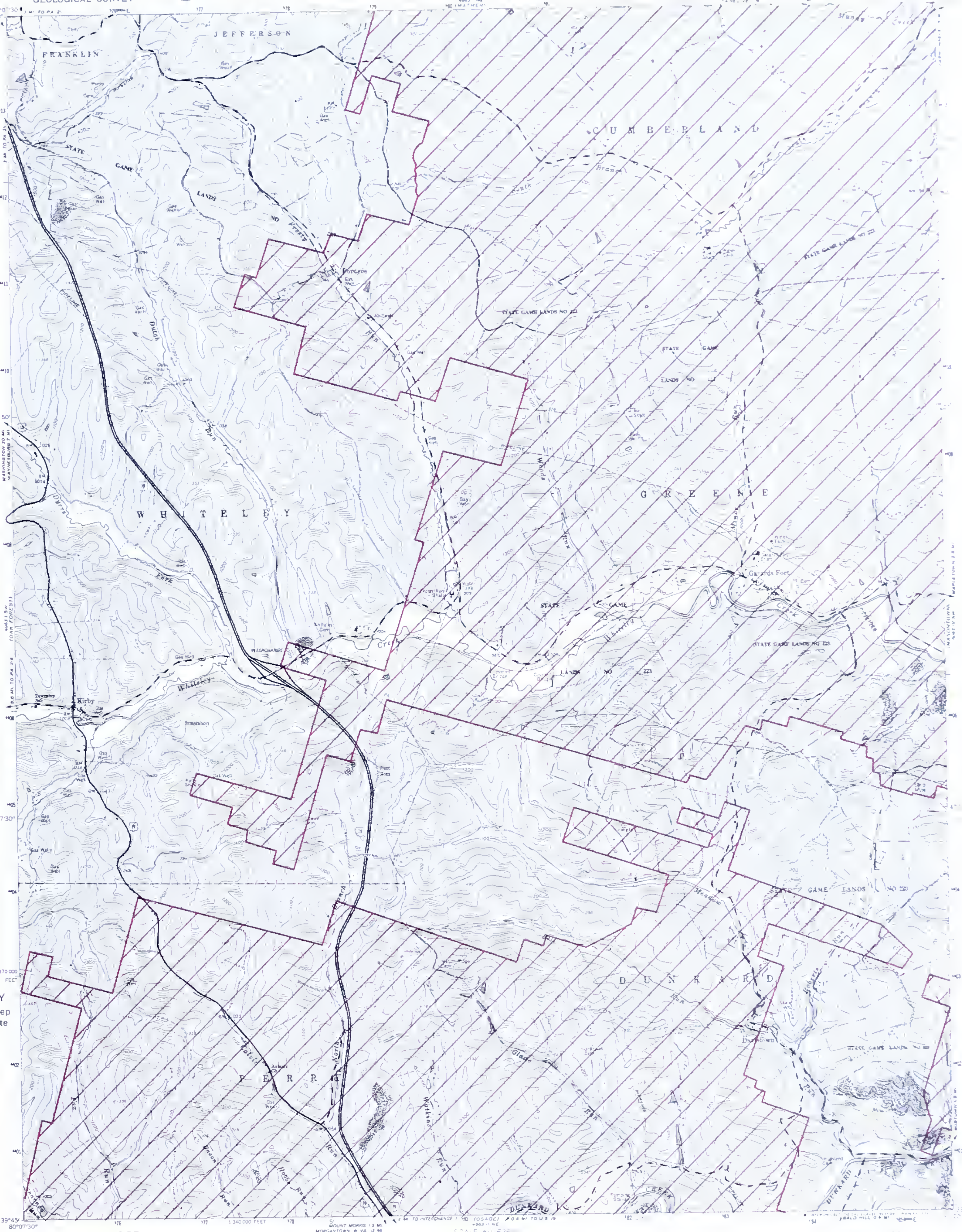
COAL CROP LINES AND STRUCTURE CONTOURS

ELLSWORTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining



MAP RELIABILITY
Limits of known deep mining—approximate

SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MINED-OUT AREAS OF THE

PITTSBURGH COAL

GARARDS FORT

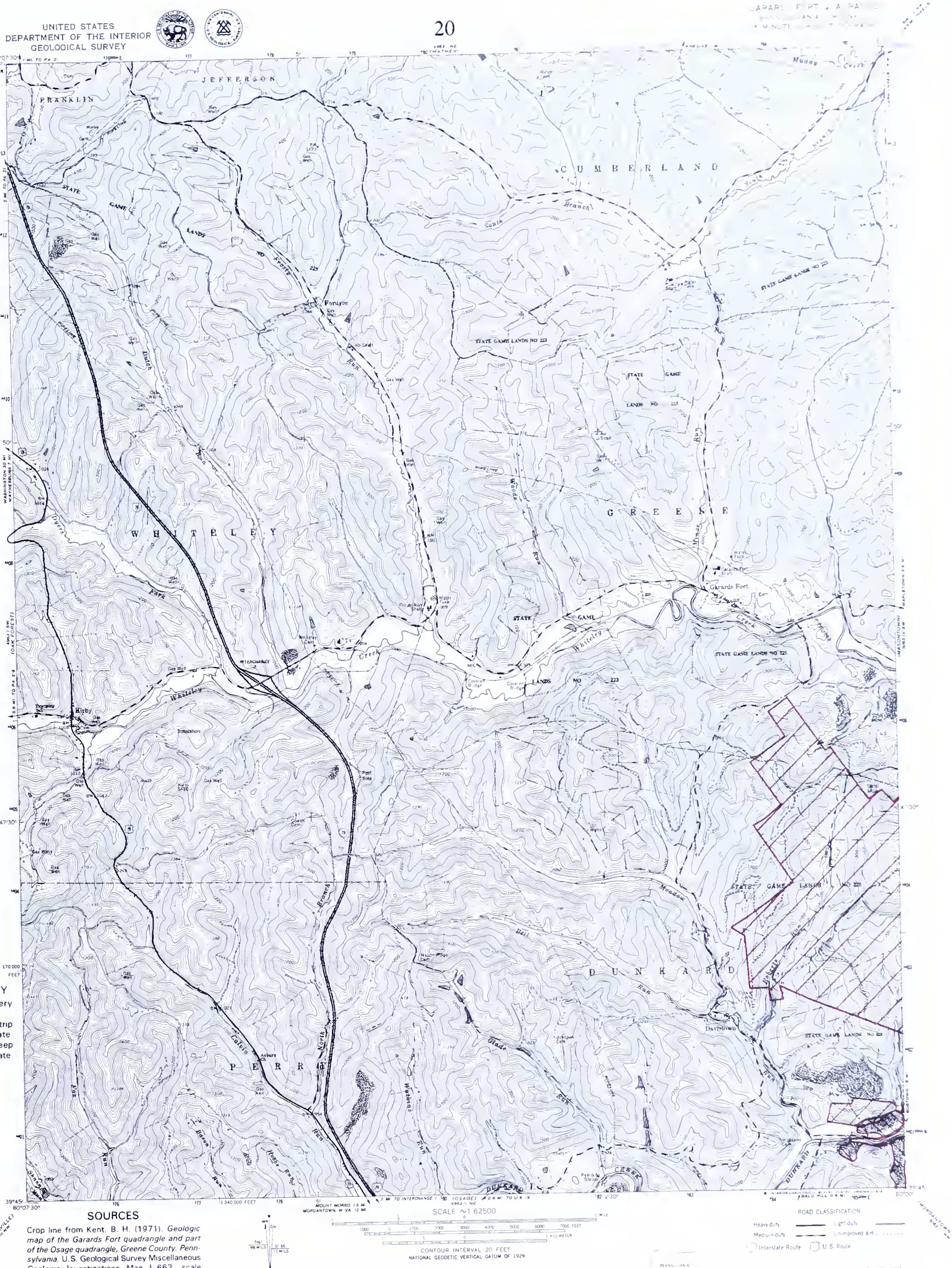
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

~ Crop line of the Sewickley coal

▨ Extent of known strip mining

▨ Extent of known deep mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

Limits of known deep mining—approximate

SOURCES

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–663, scale 1:24,000.

Limits of strip mining from Kent (1971), interpretation of topographic map, and field work.

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1975), unpublished map.

CROP LINE AND MINED-OUT AREAS OF THE SEWICKLEY COAL

GARARDS FORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

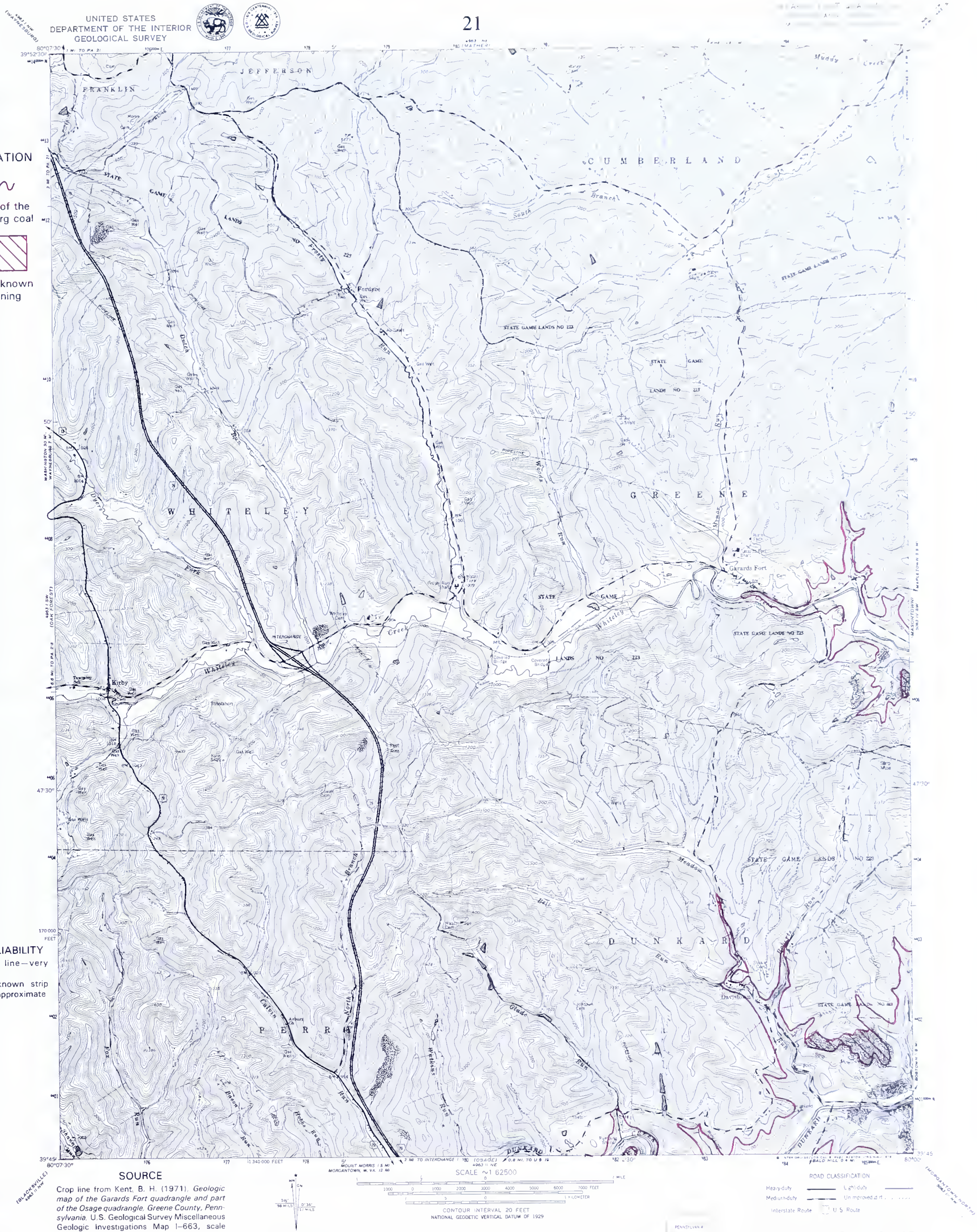
Crop line of the Waynesburg coal

▨ Extent of known strip mining

MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate



SOURCE

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–663, scale 1:24,000.

Limits of strip mining from interpretation of topographic map.

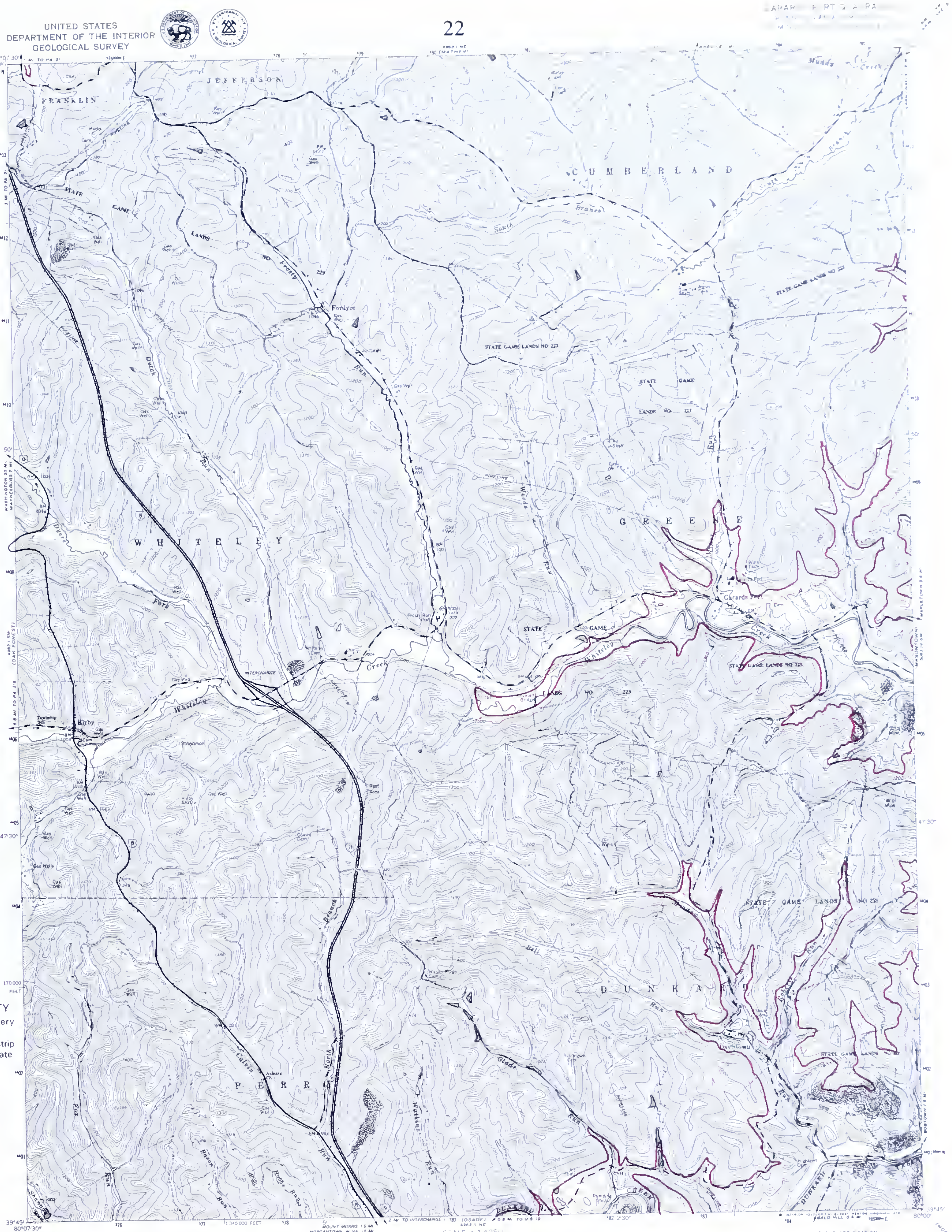
CROP LINE AND MINED-OUT AREAS OF THE
WAYNESBURG COAL

GARARDS FORT

EXPLANATION

〰 Crop line of the Waynesburg A coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCE

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-663, scale 1:24,000.

Limits of strip mining from interpretation of topographic map.

CROP LINE AND MINED-OUT AREA OF THE WAYNESBURG A COAL

GARARDS FORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

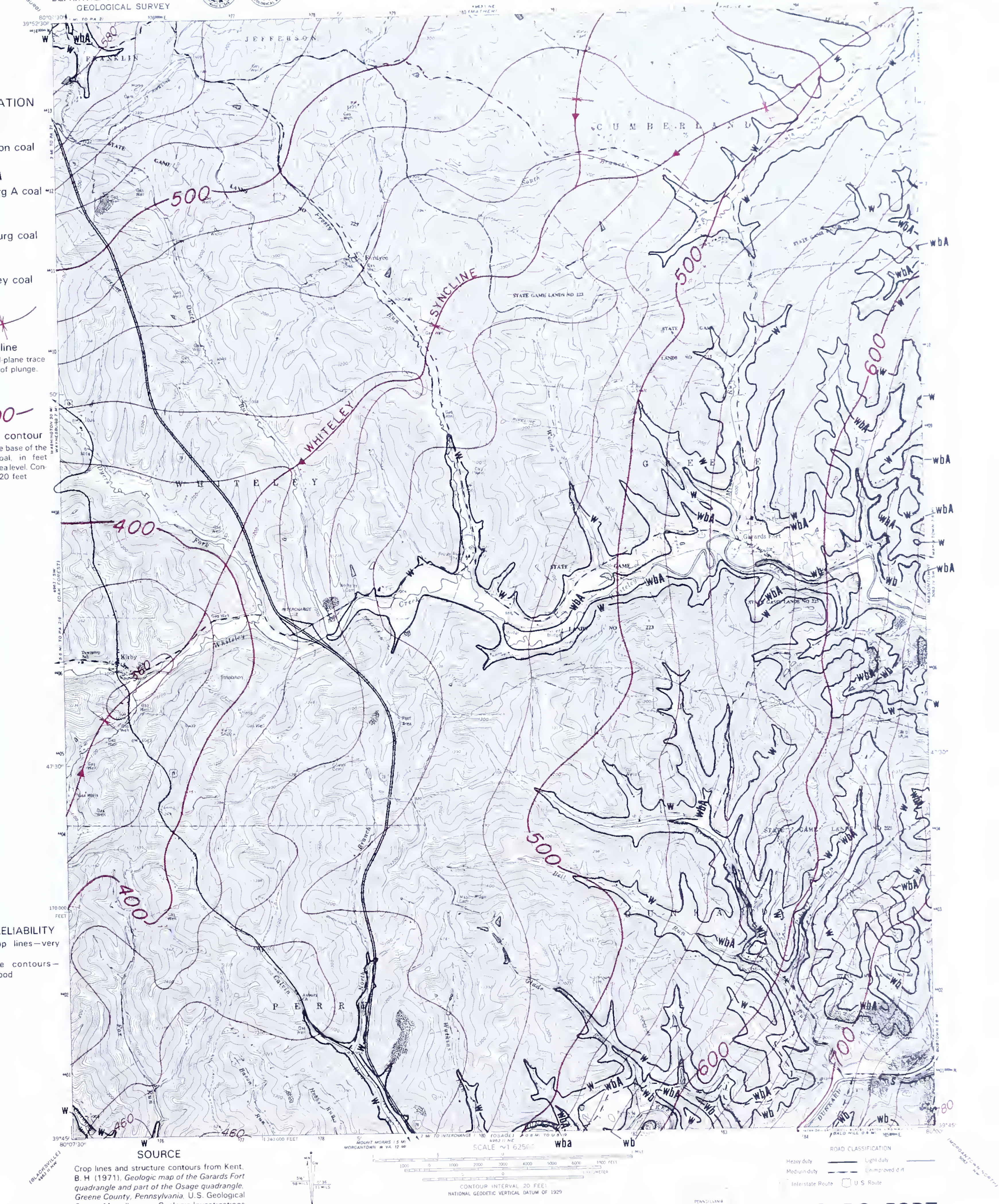
s
Sewickley coal

Syncline
Showing axial-plane trace and direction of plunge.

—400—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet

MAP RELIABILITY

Coal crop lines—very good
Structure contours—very good



SOURCE

Crop lines and structure contours from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-663, scale 1:24,000.

COAL CROP LINES AND STRUCTURE CONTOURS

GARARDS FORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

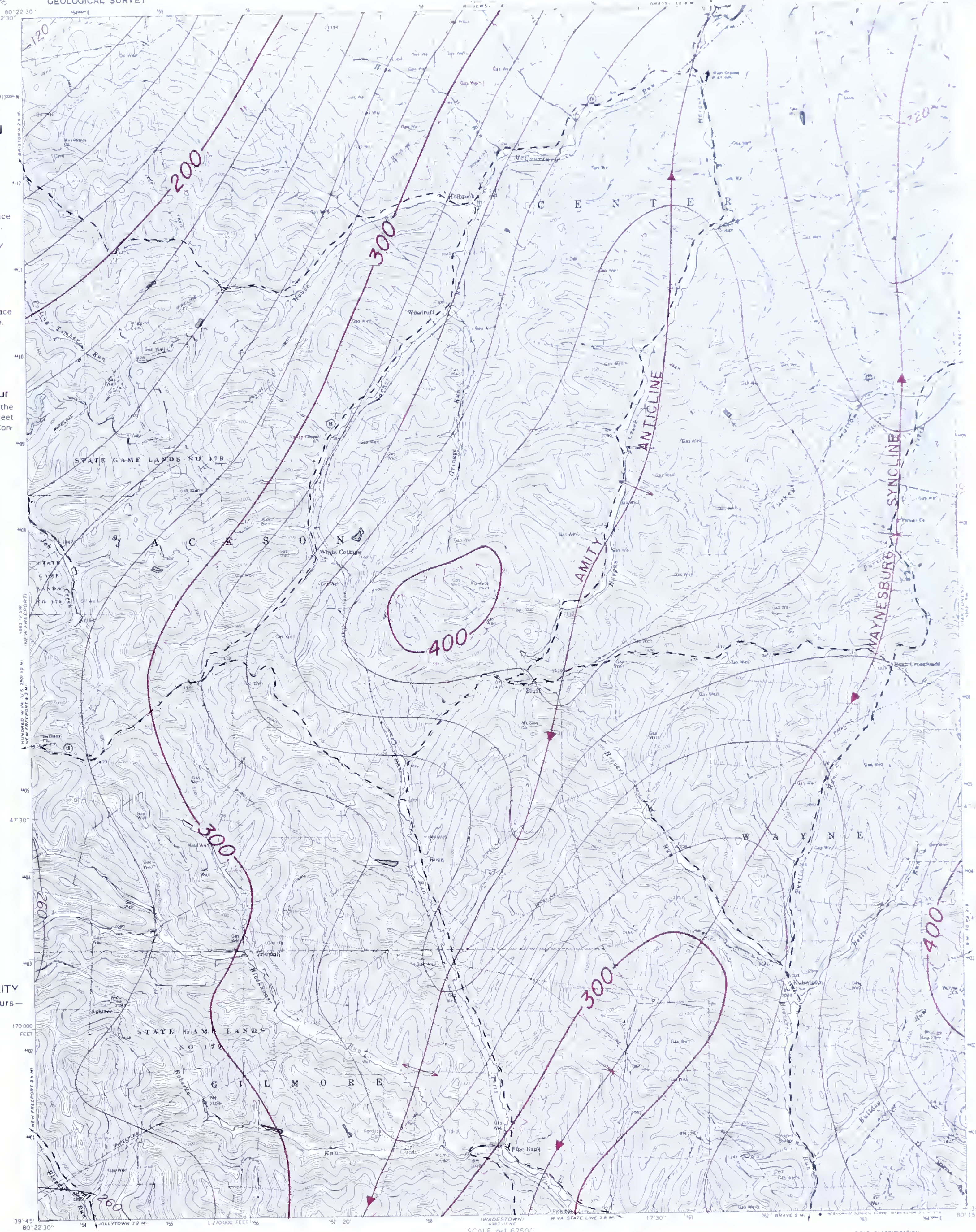
EXPLANATION

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

300

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet



MAP RELIABILITY
Structure contours—good

SOURCE

Structure contours modified by C. H. Dodge from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION
Medium-duty
Light-duty
Unimproved dirt
○ State Route

STRUCTURE CONTOURS

HOLBROOK

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

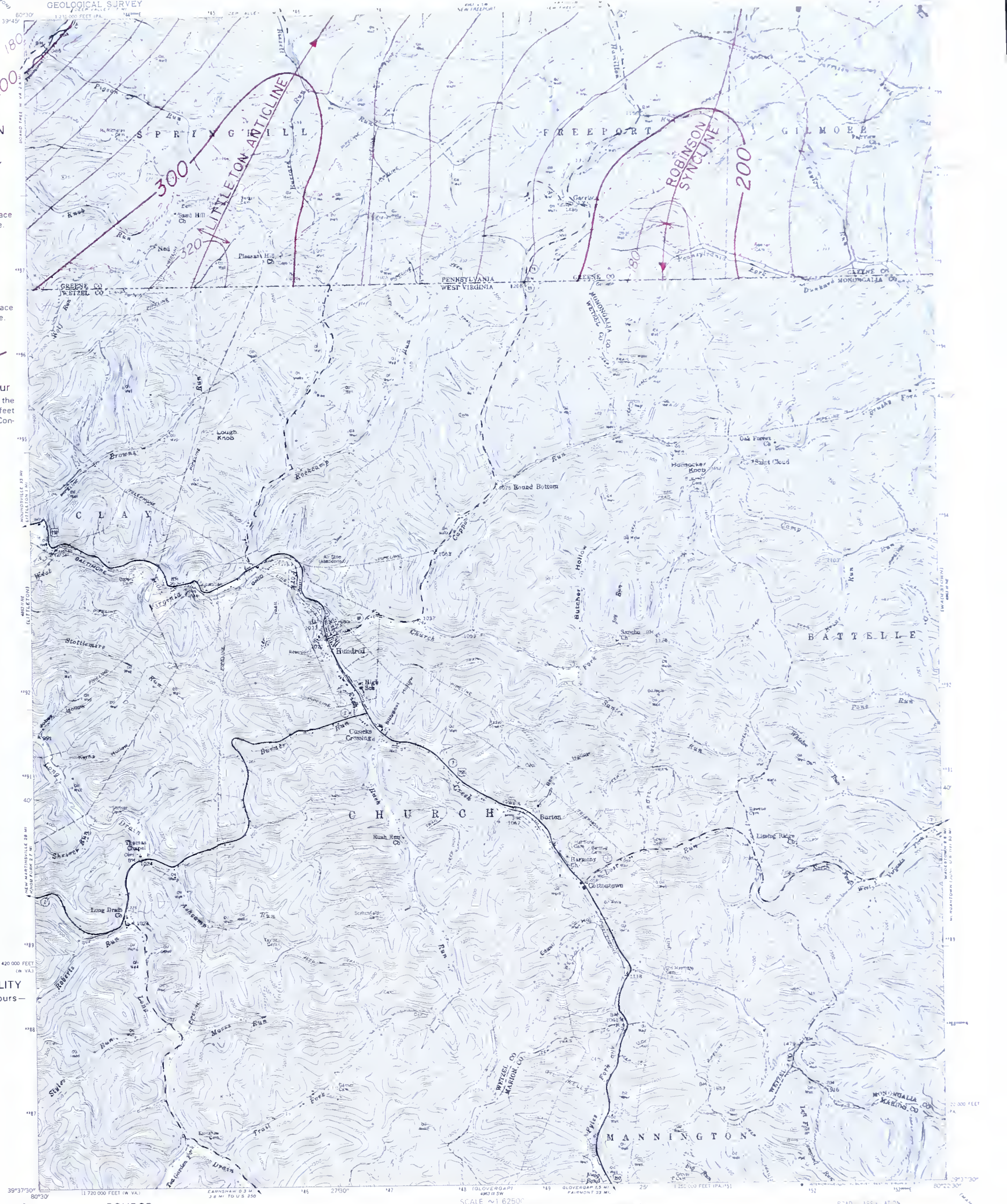
Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

—300—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Structure contours—good



SOURCE

Structure contours modified by C. H. Dodge from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

STRUCTURE CONTOURS

HUNDRED

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LITTLETON QUADRANGLE
WEST VIRGINIA–PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

200

Structure contour

Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Structure contours—good

SOURCE

Structure contours modified by C. H. Dodge from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U.S. Route
State Route

QUADRANGLE LOCATION

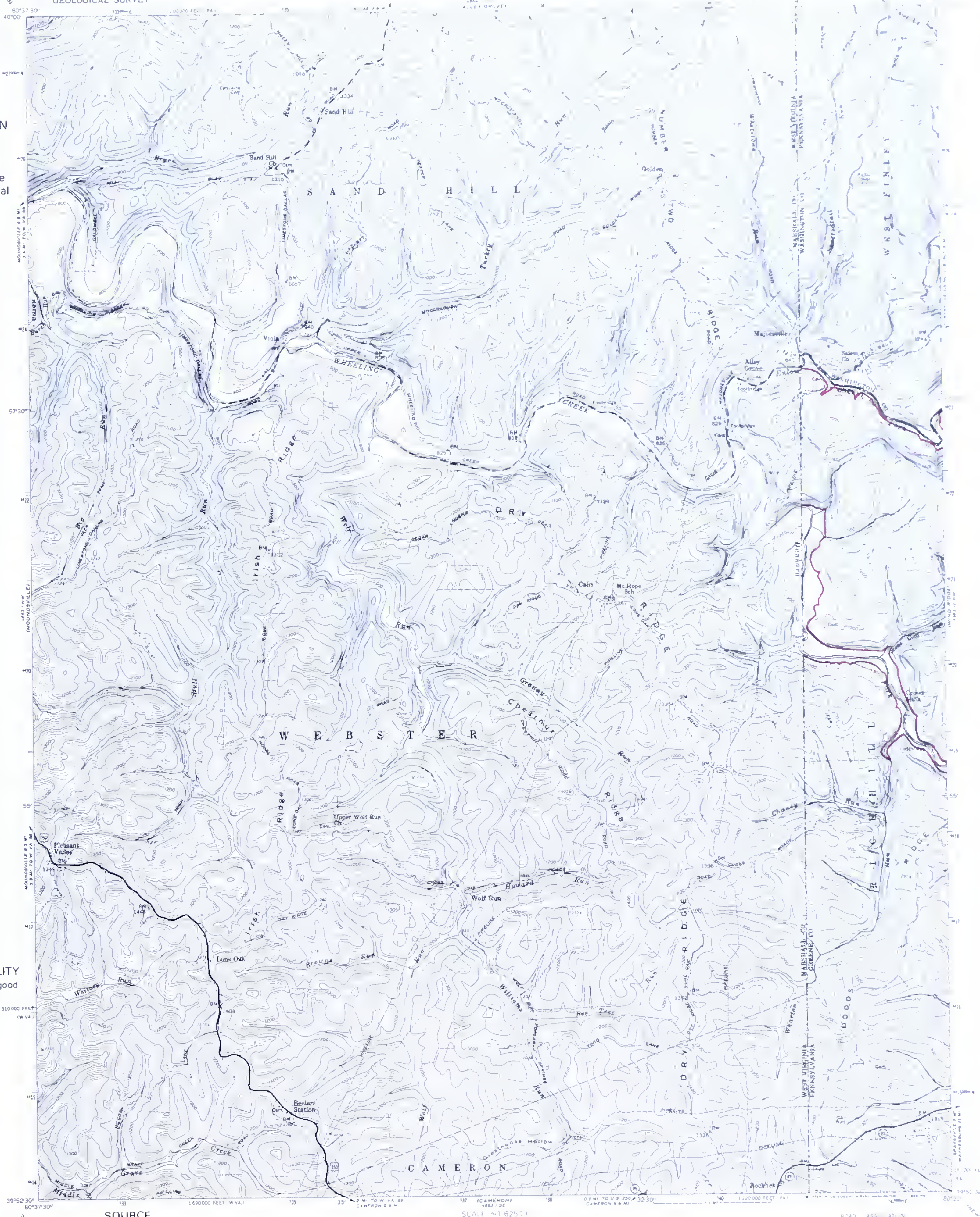
STRUCTURE CONTOURS

LITTLETON

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the
Waynesburg coal



MAP RELIABILITY

Coal crop line—good

SOURCE

Crop line modified by A. D. Glover from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania.* Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

CROP LINE OF THE
WAYNESBURG COAL

MAJORSVILLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

MAP RELIABILITY

Coal crop line—good

SOURCE

Crop line modified by A. D. Glover from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania,* Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

CROP LINE OF THE
WAYNESBURG A COAL

MAJORSVILLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

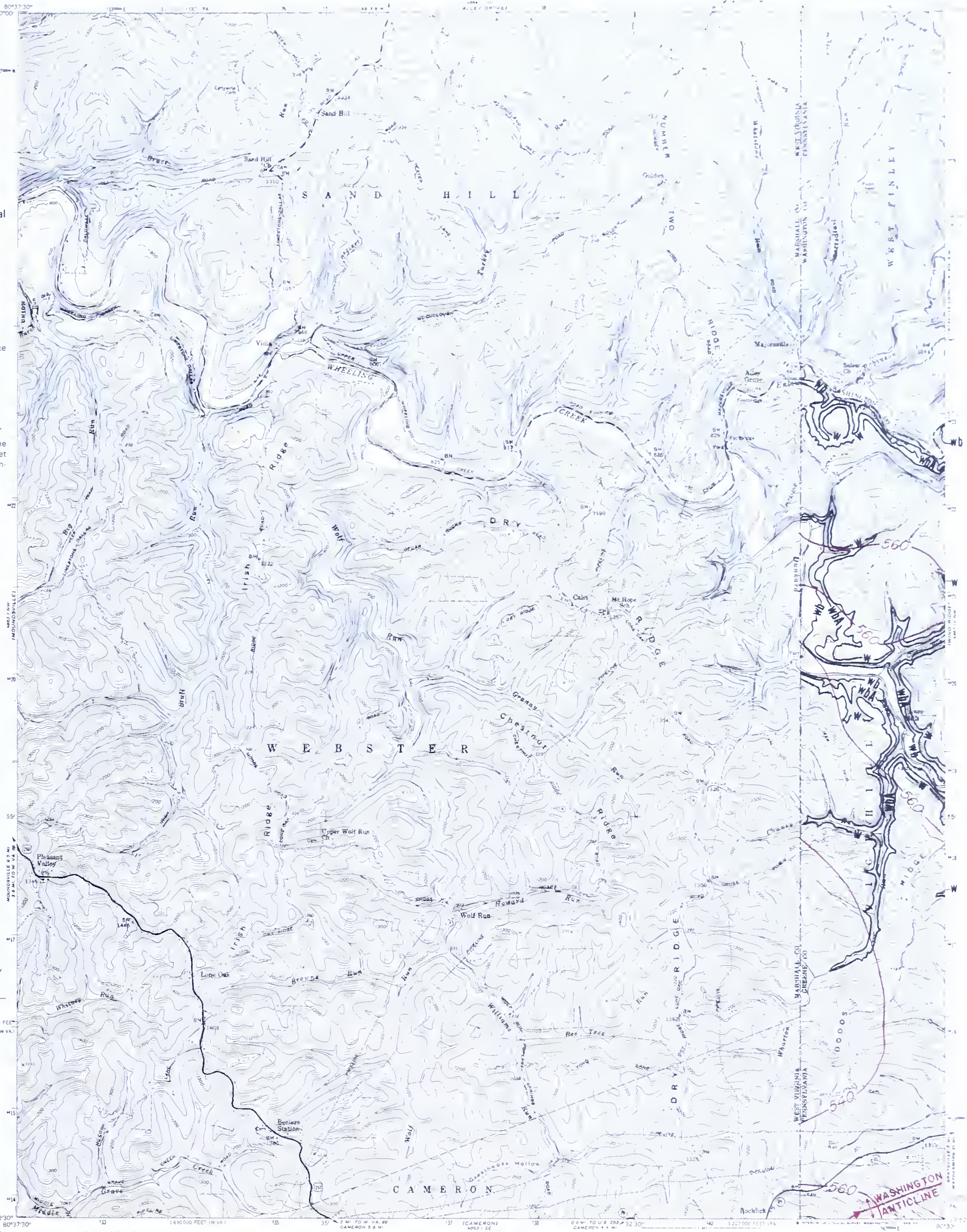
w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

Anticline
Showing axial-plane trace and direction of plunge.

560
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet



MAP RELIABILITY

Coal crop lines—good
Structure contours—good to very good

SOURCES

Coal crop lines modified by A. D. Glover from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

Structure contours modified by C. H. Dodge from unpublished map by Consolidation Coal Company (1981), and from Stone (1932).

UTM GRID AND 1959 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

COAL CROP LINES AND STRUCTURE CONTOURS

MAJORSVILLE

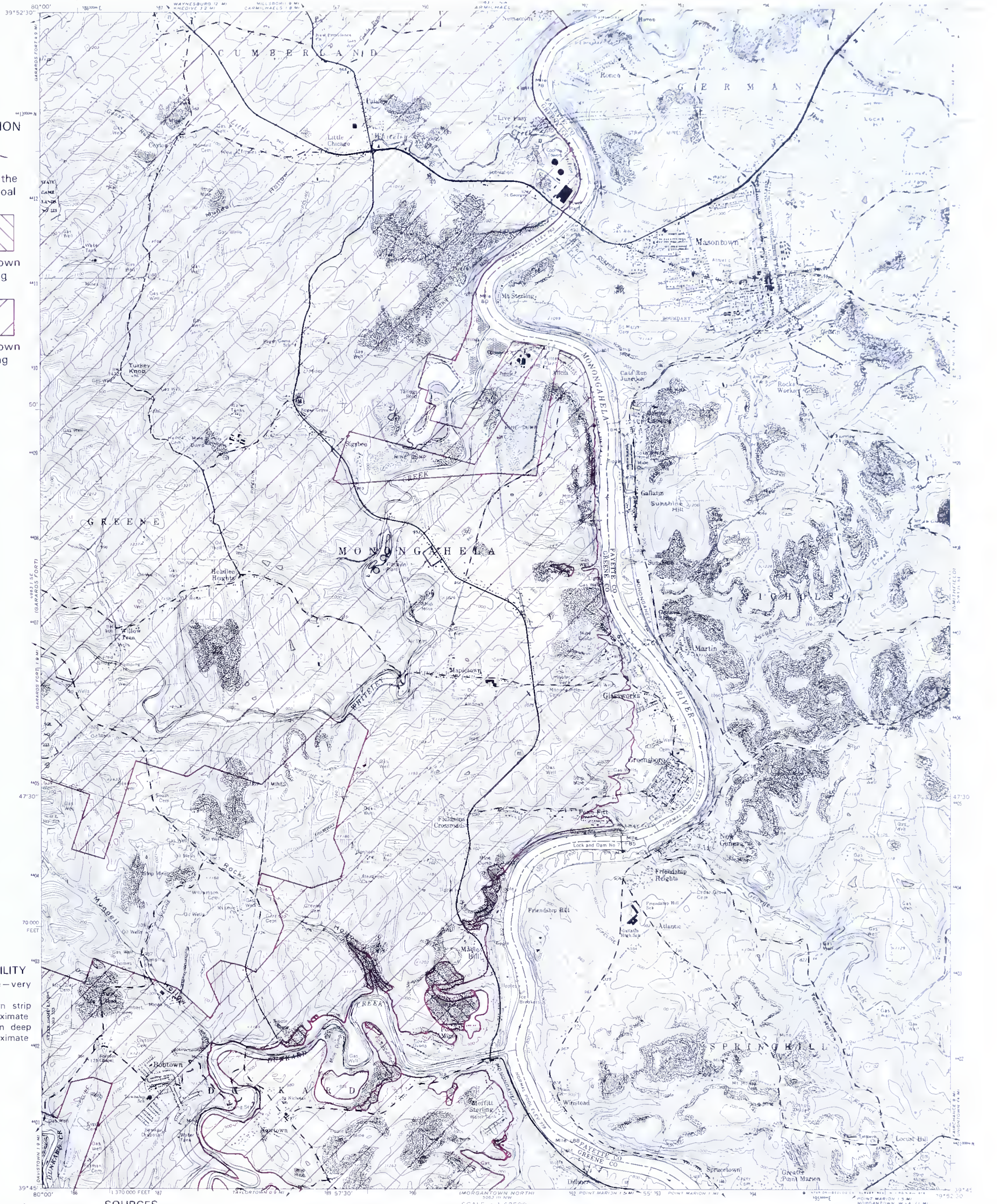
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Pittsburgh coal

▧ Extent of known strip mining

▨ Extent of known deep mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

Limits of known deep mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania,* U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

CROP LINE AND MINED-OUT AREAS OF THE PITTSBURGH COAL

MASONTOWN

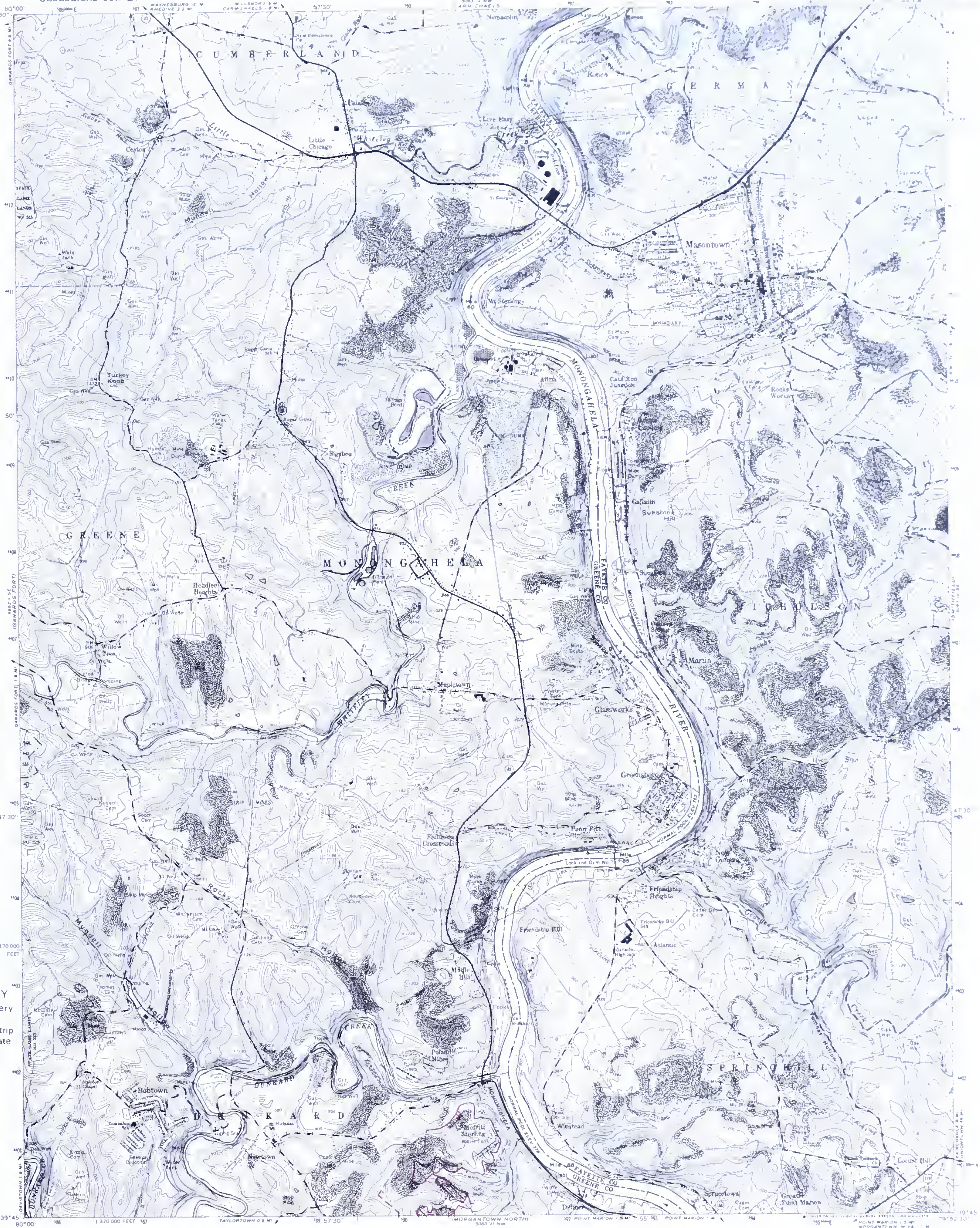
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Pittsburgh rider coal

Approximate limit of preserved coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000. Minor re-correlation made by C. H. Dodge and A. D. Glover.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work.

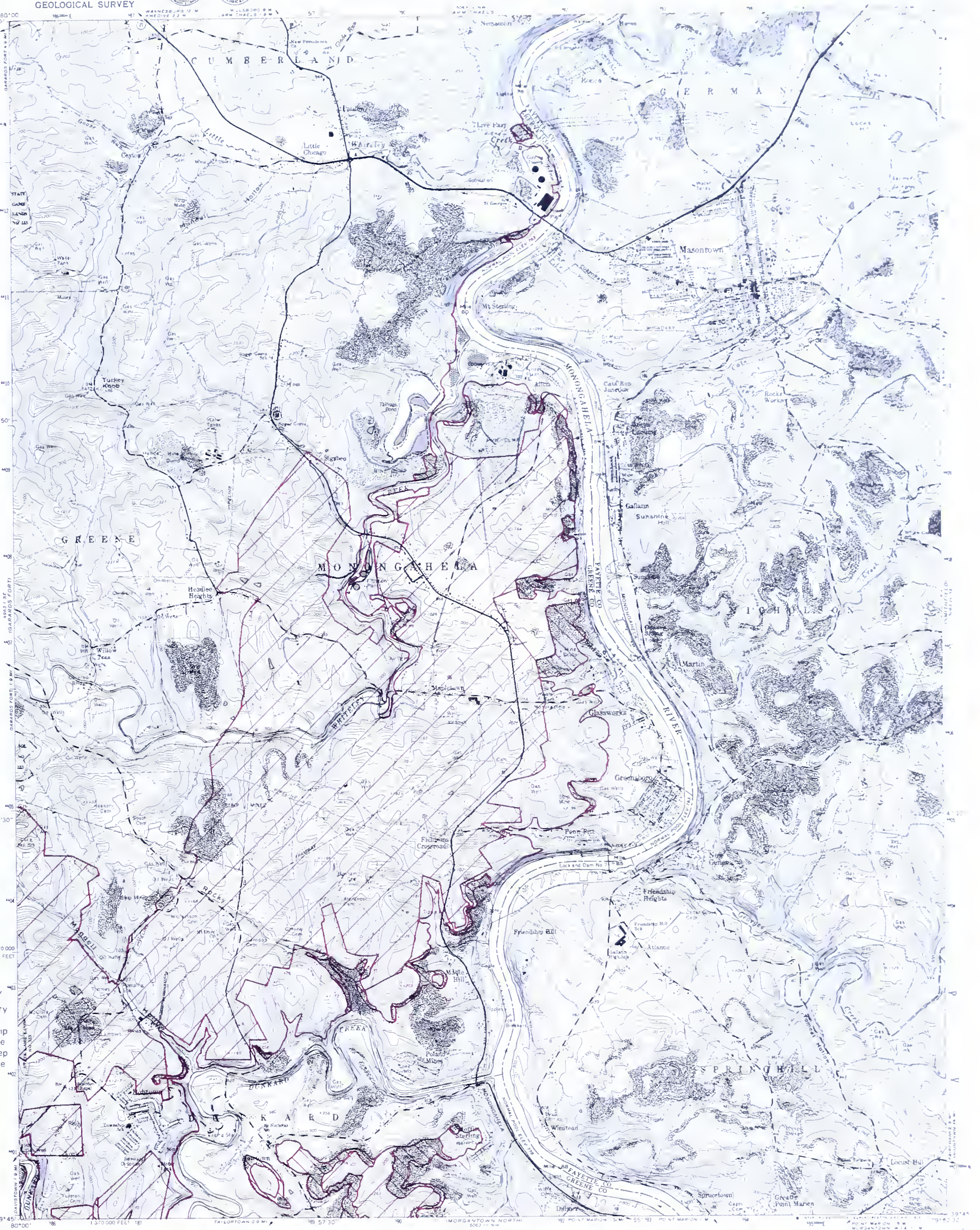
SCALE ~1:62500
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Heavy duty — Light duty
Medium duty — Unimproved dirt
U.S. Route — State Route

CROP LINE AND MINED-OUT AREAS OF THE PITTSBURGH RIDER COAL

MASONTOWN

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



EXPLANATION

- ∼ Crop line of the Sewickley coal
- ▧ Extent of known strip mining
- ▨ Extent of known deep mining

MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate
Limits of known deep mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work.

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

CROP LINE AND MINED-OUT AREAS OF THE
SEWICKLEY COAL

MASONTOWN

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOOICAL SURVEY

MASONTOWN QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

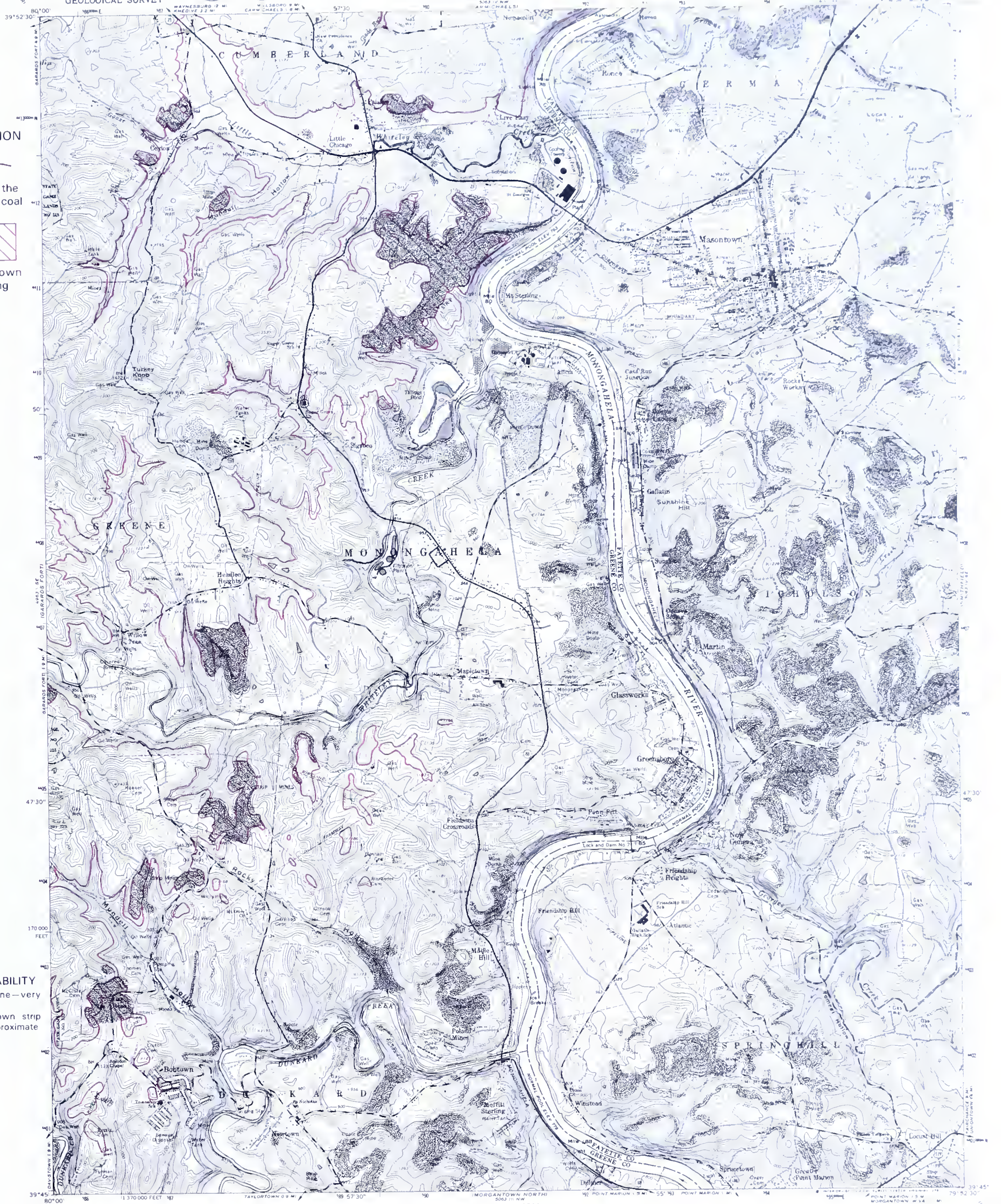
Crop line of the Waynesburg coal

▨ Extent of known strip mining

MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate



SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S Geological Survey Miscellaneous Geologic Investigations Map I-743, scale 1.24,000.

CROP LINE AND MINED-OUT AREAS OF THE
WAYNESBURG COAL

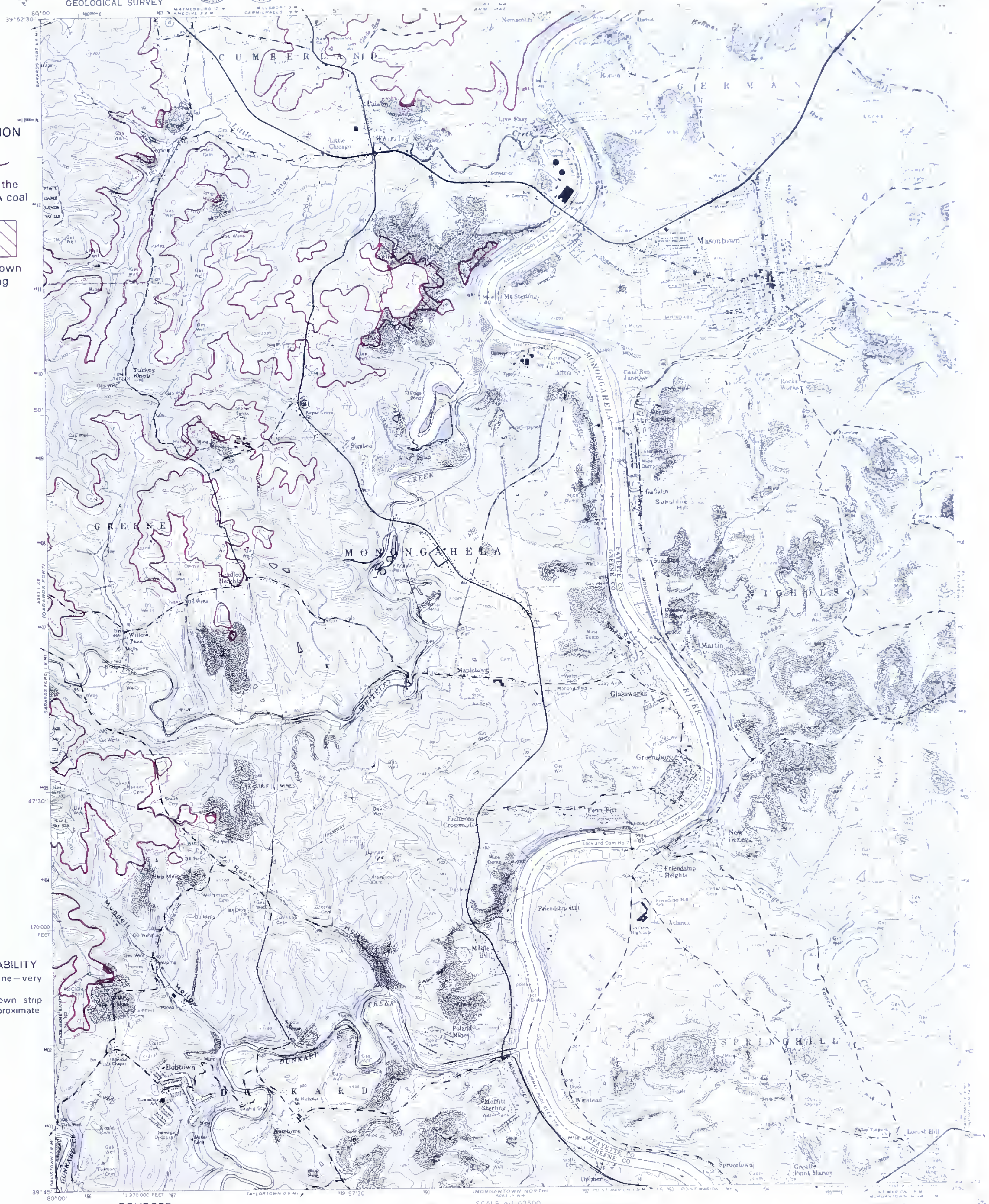
MASONTOWN

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania,* U.S. Geological Survey Miscellaneous Geologic Investigations Map I-743, scale 1:24,000.

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

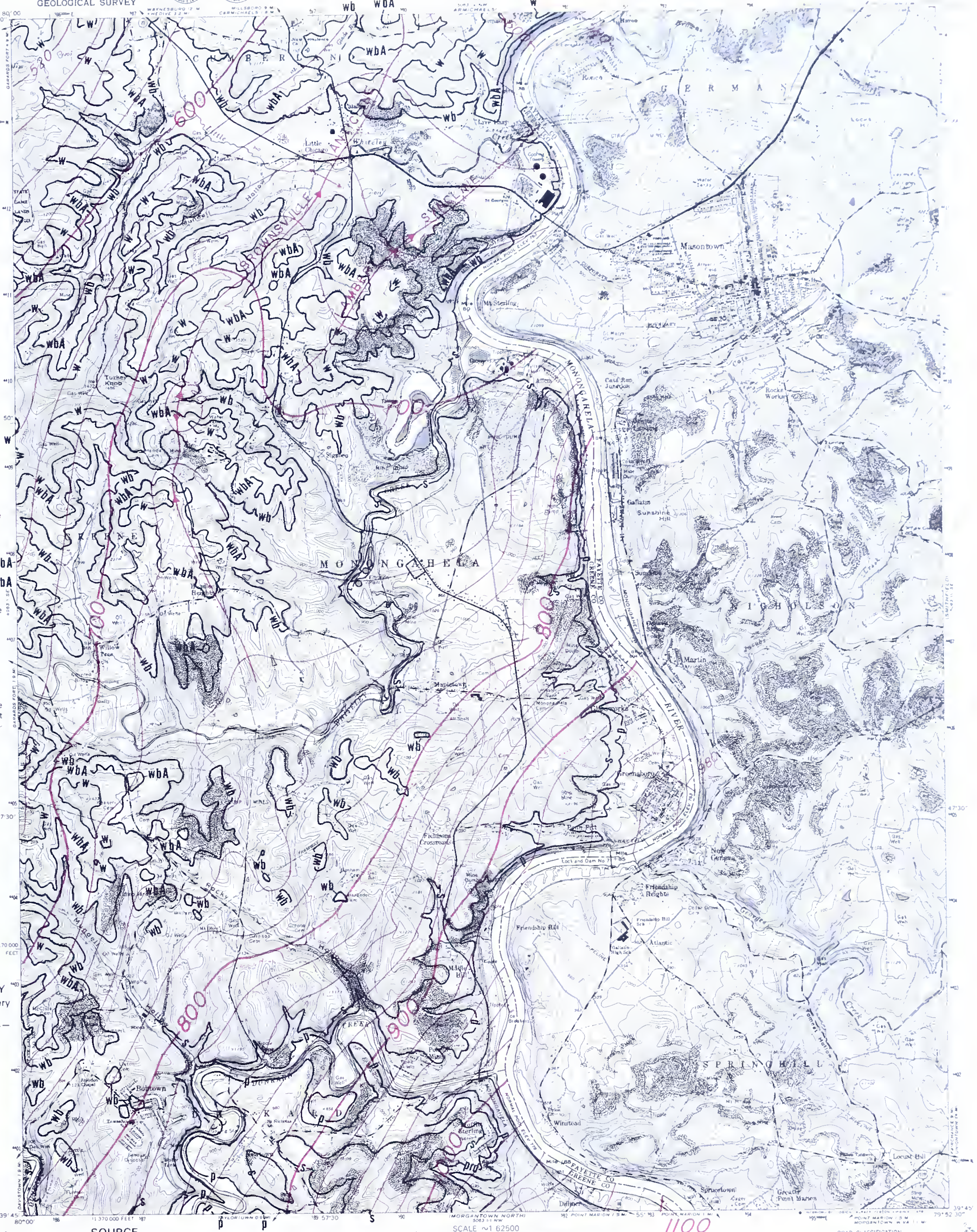
SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

CROP LINE AND MINED-OUT AREAS OF THE
WAYNESBURG A COAL

MASONTOWN

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

s
Sewickley coal

prd
Pittsburgh rider coal

p
Pittsburgh coal

Anticline
Showing axial-plane trace and direction of plunge

Syncline
Showing axial-plane trace and direction of plunge.

—700—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY
Coal crop lines—very good
Structure contours—very good

SOURCE

Crop lines and structure contours from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-743, scale 1:24,000. Minor re-correlation made by C. H. Dodge and A. D Glover

UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE ~1 62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

COAL CROP LINES AND STRUCTURE CONTOURS

MASONTOWN

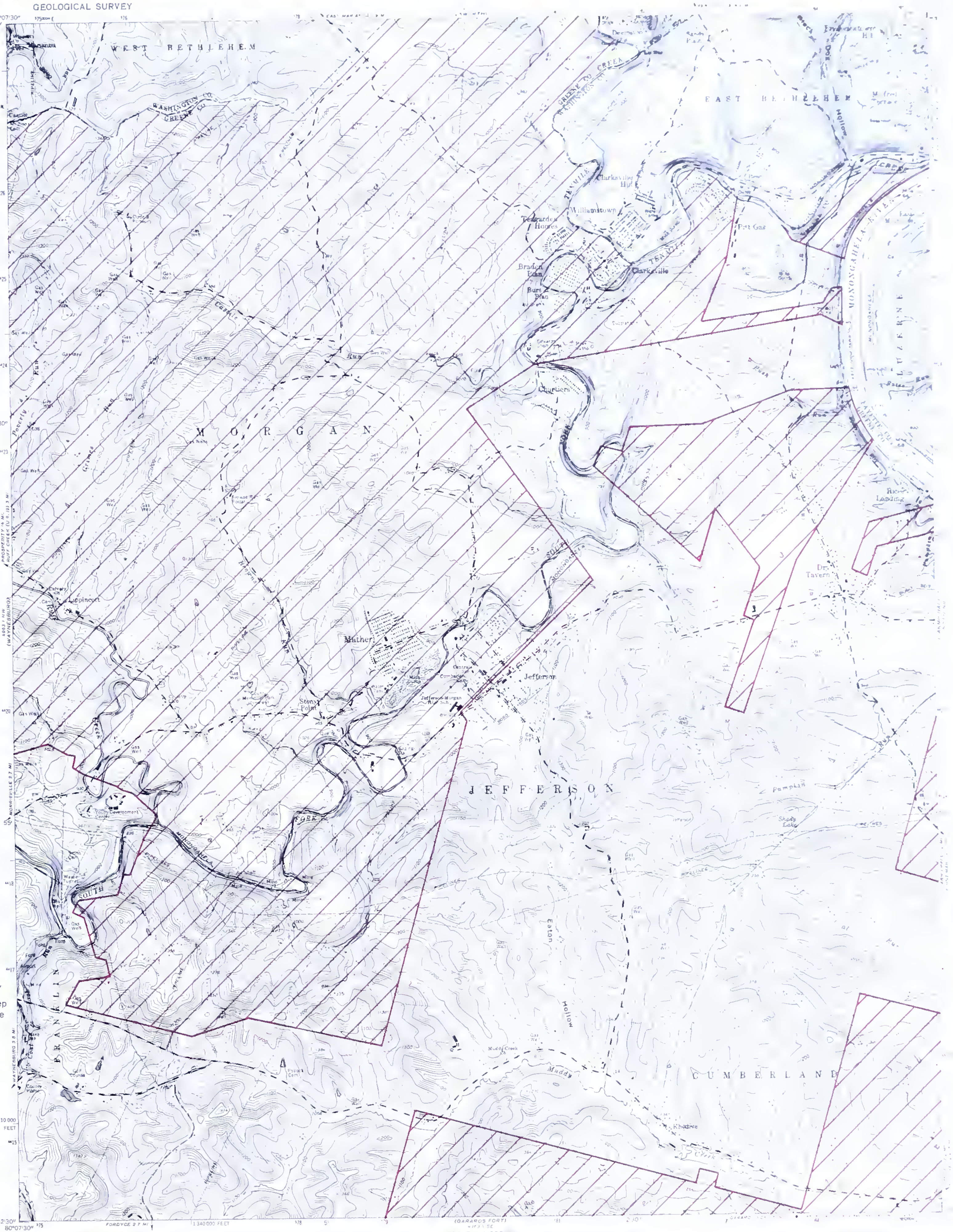
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

MINED OUT AREAS OF THE
PITTSBURGH COAL

MATHER

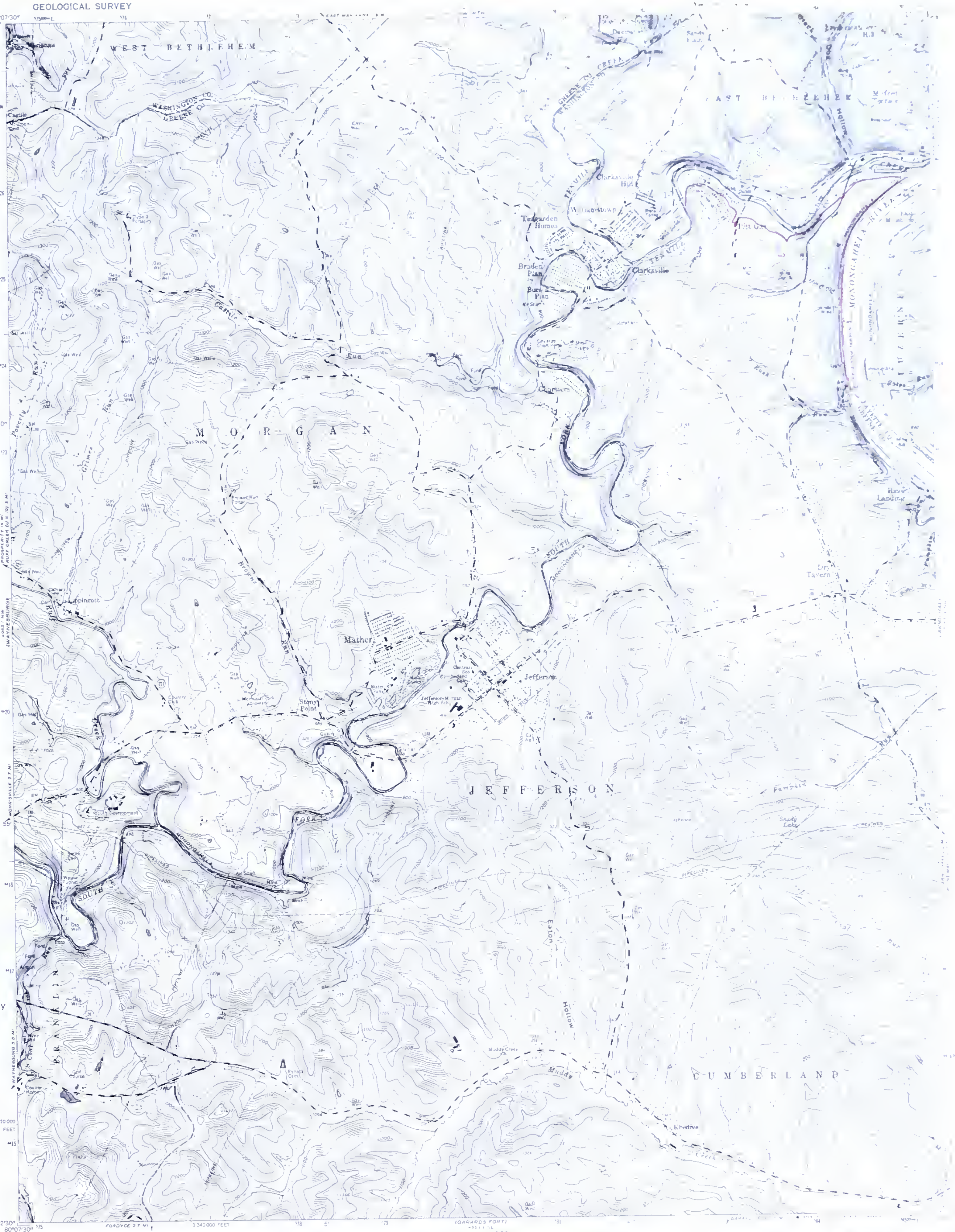
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Redstone coal

MAP RELIABILITY

Coal crop line—very good



SOURCE

Crop line from Kent, B. H. (1969), *Geologic map of the Mather quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-826, scale 1:24,000.

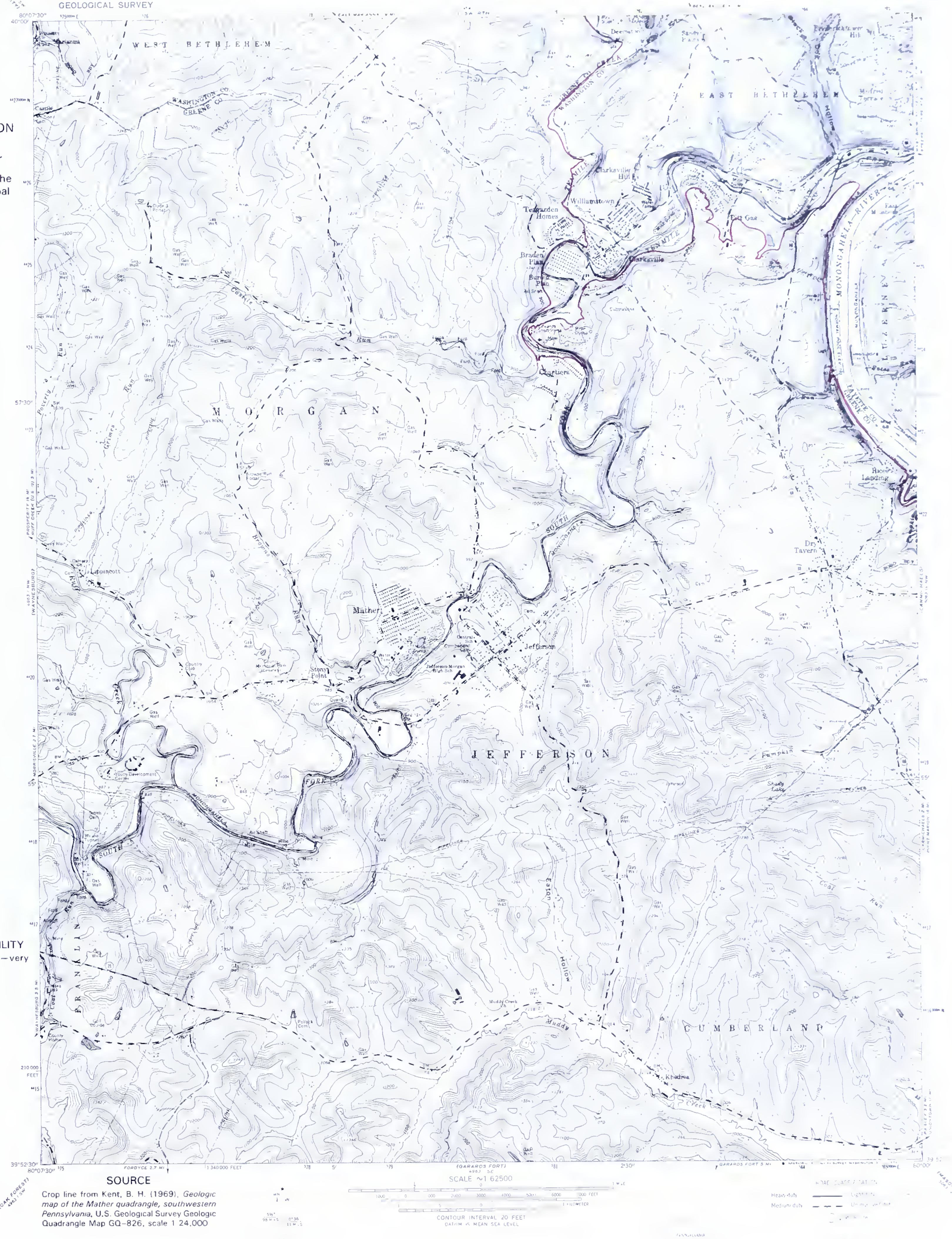
CROP LINE OF THE
REDSTONE COAL

MATHER

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〰 Crop line of the Sewickley coal



MAP RELIABILITY

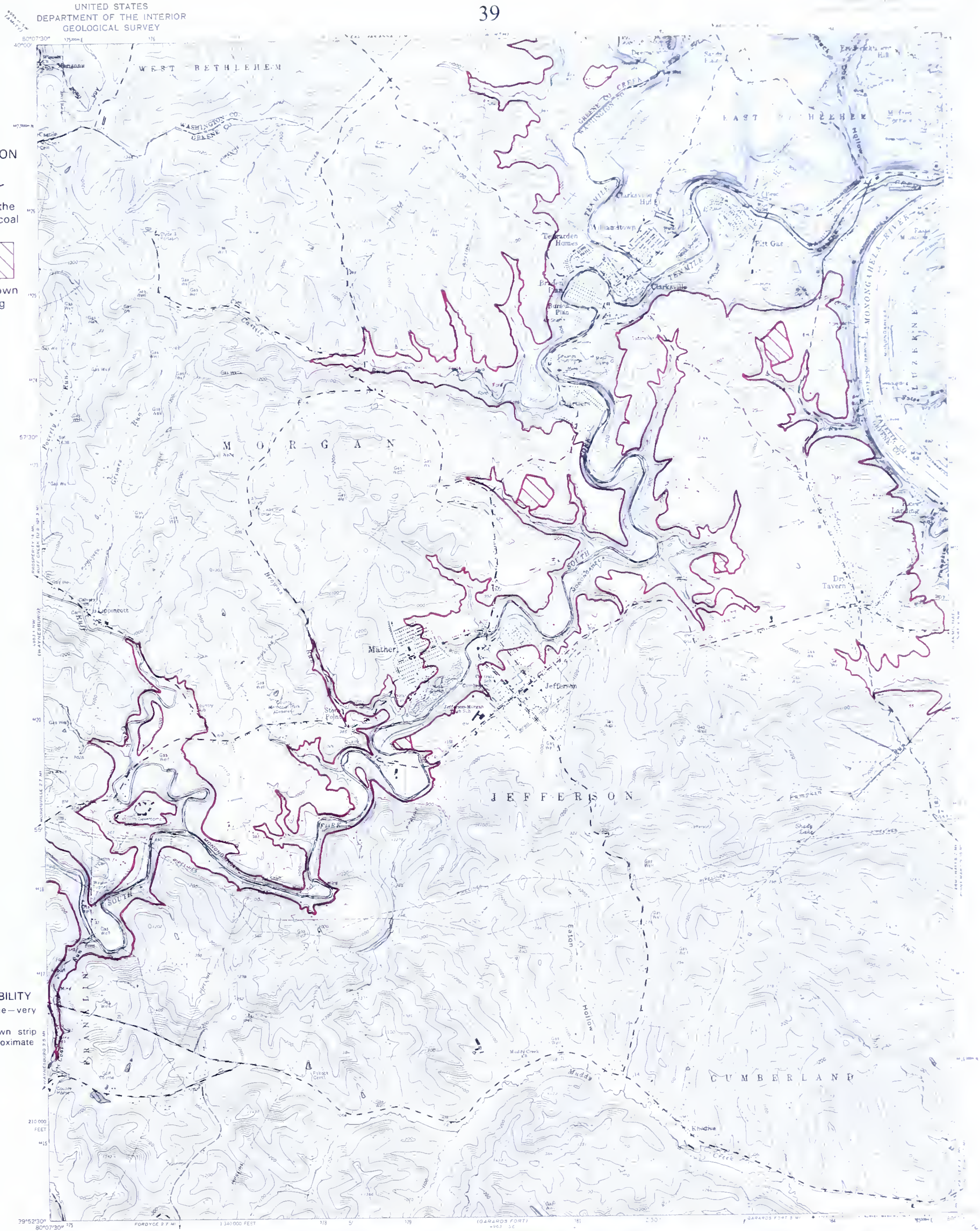
Coal crop line—very good

SOURCE

Crop line from Kent, B. H. (1969), *Geologic map of the Mather quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ–826, scale 1 24,000

CROP LINE OF THE
SEWICKLEY COAL

MATHER



EXPLANATION

Crop line of the Waynesburg coal

▨ Extent of known strip mining

MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1969), *Geologic map of the Mather quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-826, scale 1:24,000. Limits of strip mining based on interpretation of topographic map and on field work

CROP LINE AND MINED-OUT AREAS OF THE
WAYNESBURG COAL

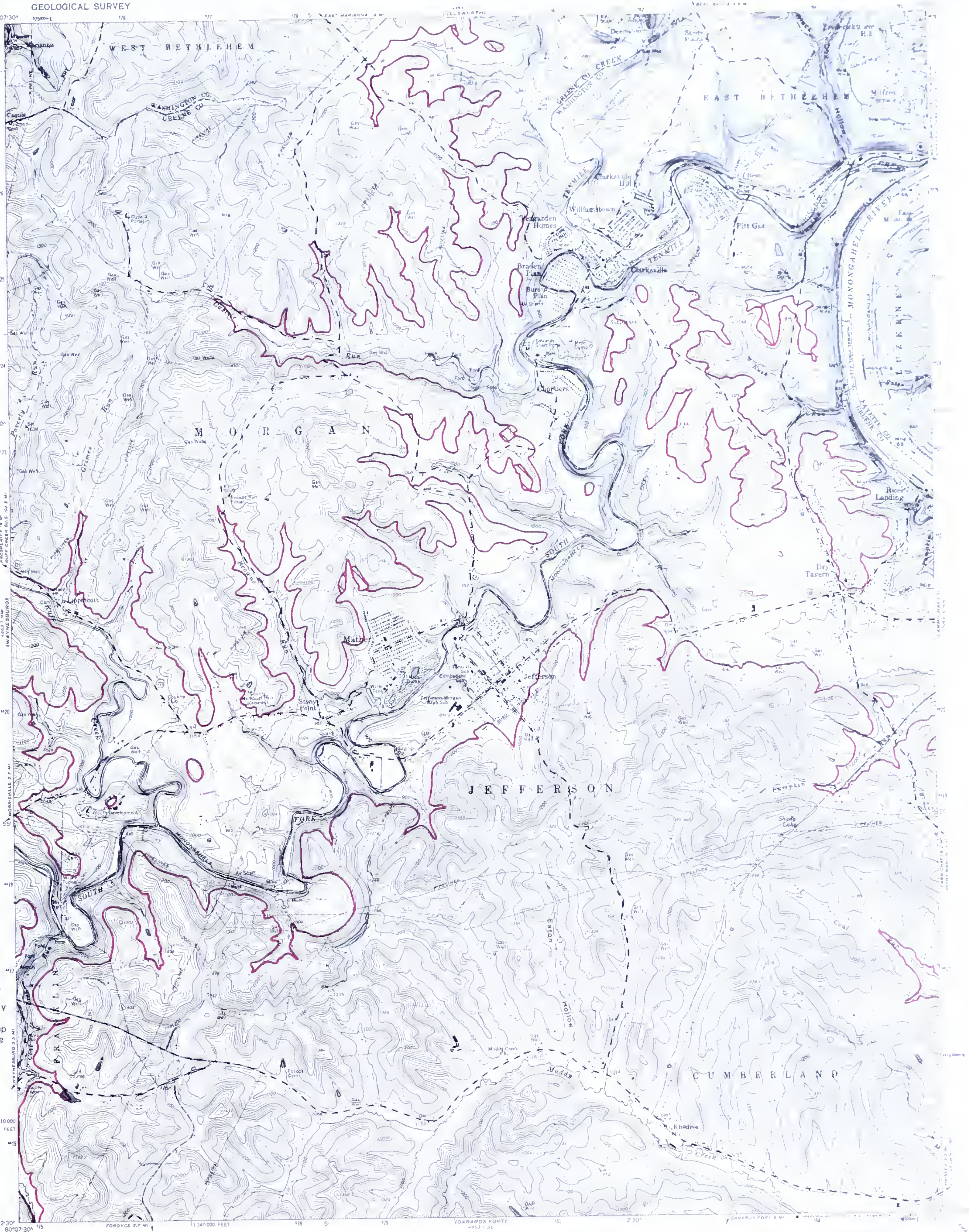
MATHER

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〰 Crop line of the Waynesburg A coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1969), *Geologic map of the Mather quadrangle, southwestern Pennsylvania*, U.S Geological Survey Geologic Quadrangle Map GO-826, scale 1 24,000. Limits of strip mining based on interpretation of topographic map and on field work.

CROP LINE AND MINED-OUT AREAS OF THE WAYNESBURG A COAL

MATHER

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

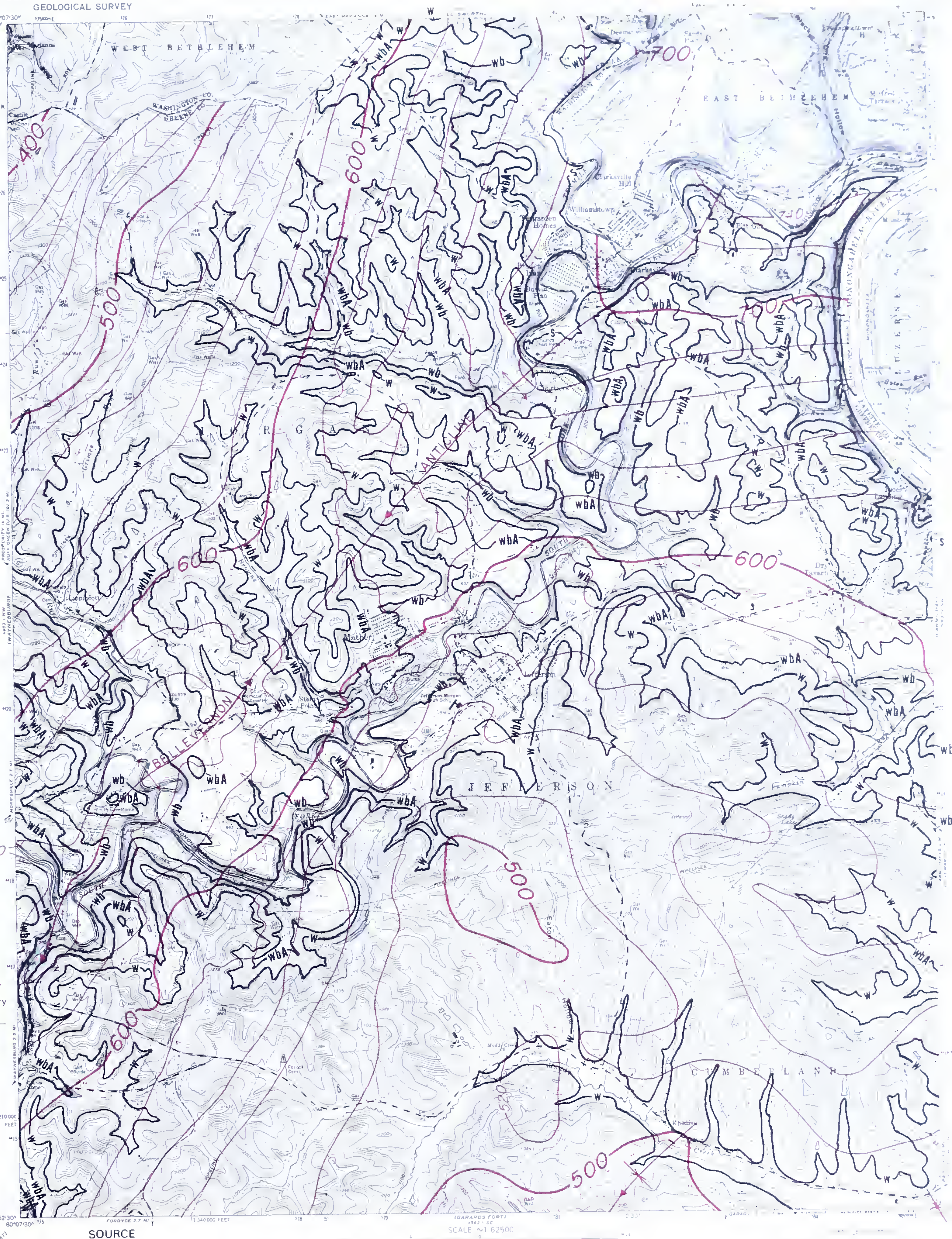
s
Sewickley coal

r
Redstone coal

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

—600—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.



MAP RELIABILITY

Coal crop line—very good
Structure contours—very good

SOURCE

Crop lines and structure contours from Kent, B. H. (1969), *Geologic map of the Mather quadrangle, southwestern Pennsylvania*, U.S Geological Survey Geologic Quadrangle Map GQ-826, scale 1:24,000.

COAL CROP LINES AND STRUCTURE CONTOURS

MATHER

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

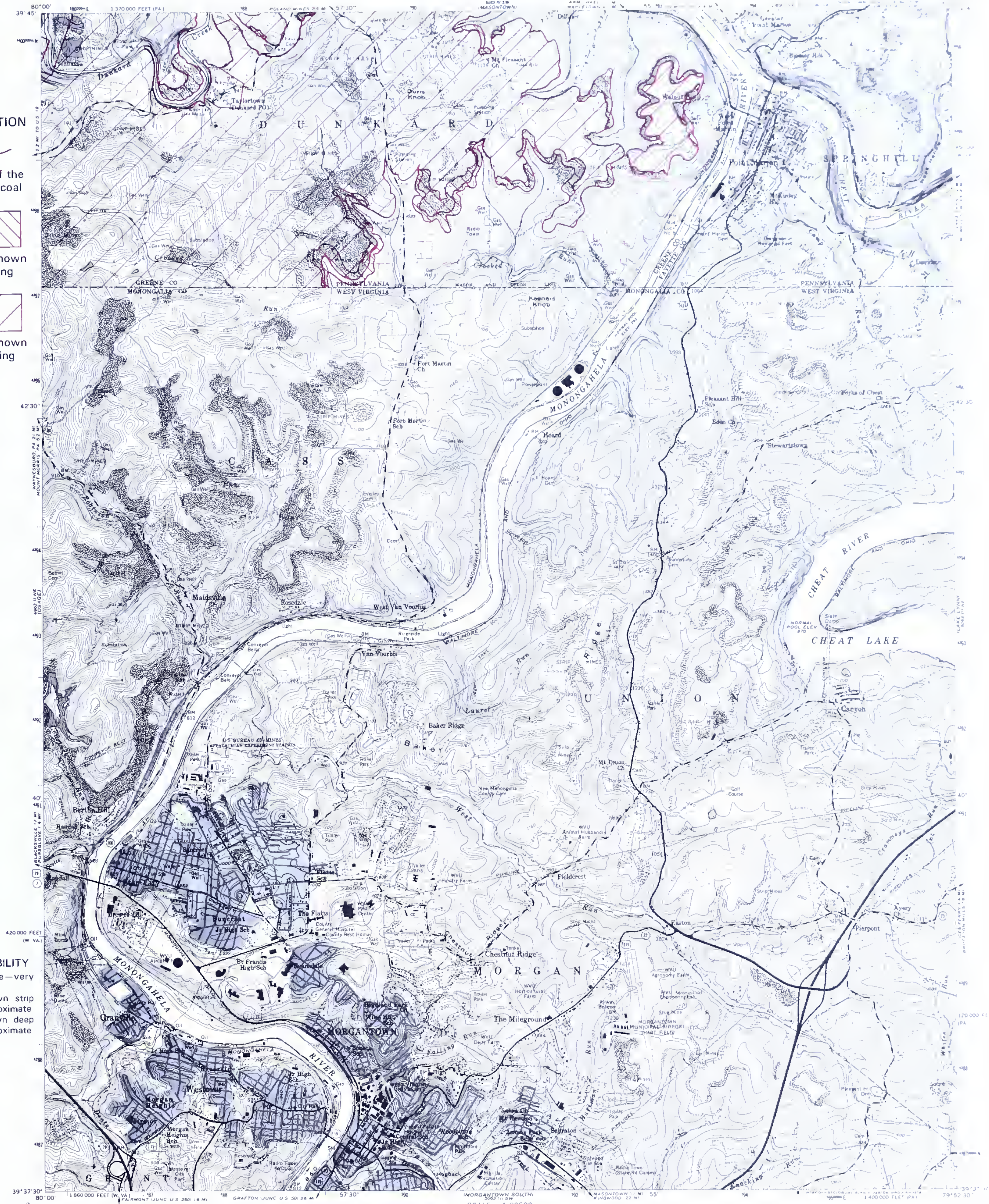
MORGANTOWN NORTH QUADRANGLE
WEST VIRGINIA PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

〰 Crop line of the Pittsburgh coal

▧ Extent of known strip mining

▨ Extent of known deep mining



SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate
Limits of known deep mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania,* U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work. Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

CROP LINE AND MINED-OUT AREAS OF THE
PITTSBURGH COAL

MORGANTOWN
NORTH

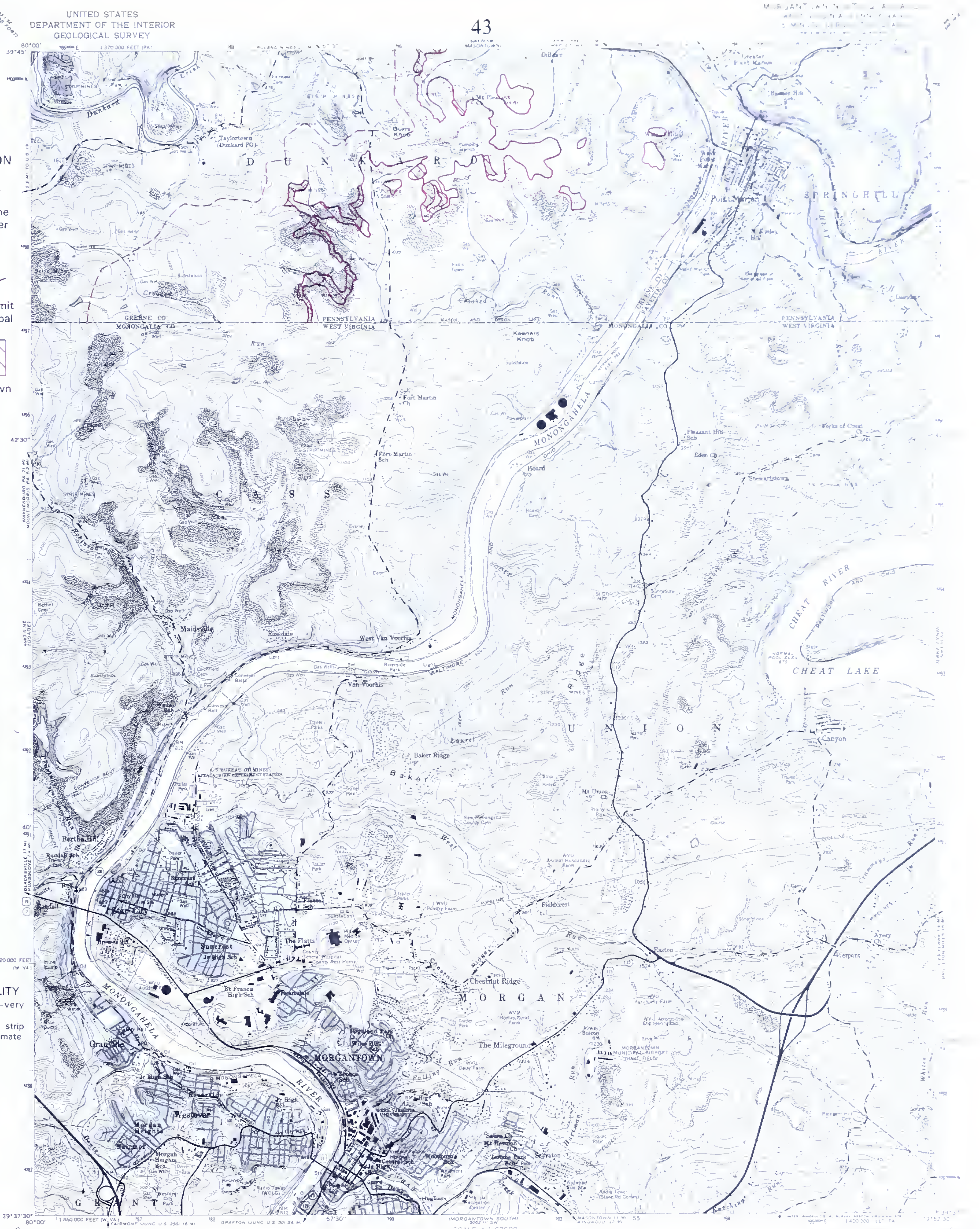
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Pittsburgh rider coal

Approximate limit of preserved coal

▨ Extent of known strip mining



SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania,* U.S. Geological Survey Miscellaneous Geologic Investigations Map I-743, scale 1:24,000. Minor re-correlation made by C. H. Dodge and A. D. Glover.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work.

MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

CROP LINE AND MINED-OUT AREAS OF THE PITTSBURGH RIDER COAL

MORGANTOWN NORTH

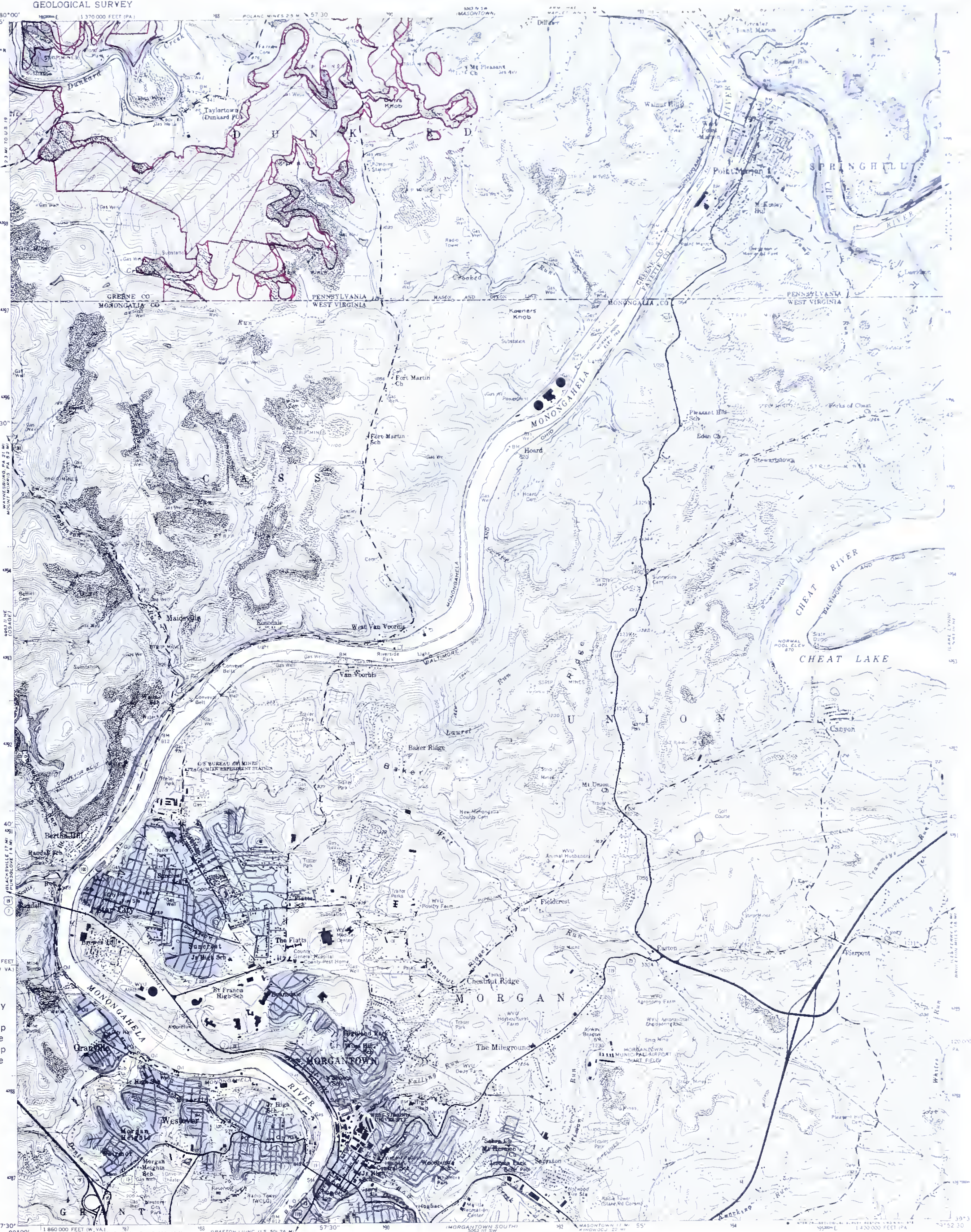
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〜 Crop line of the Sewickley coal

▧ Extent of known strip mining

▨ Extent of known deep mining



SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1975), unpublished map.

MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

Limits of known deep mining—approximate

CROP LINE AND MINED-OUT AREAS OF THE SEWICKLEY COAL

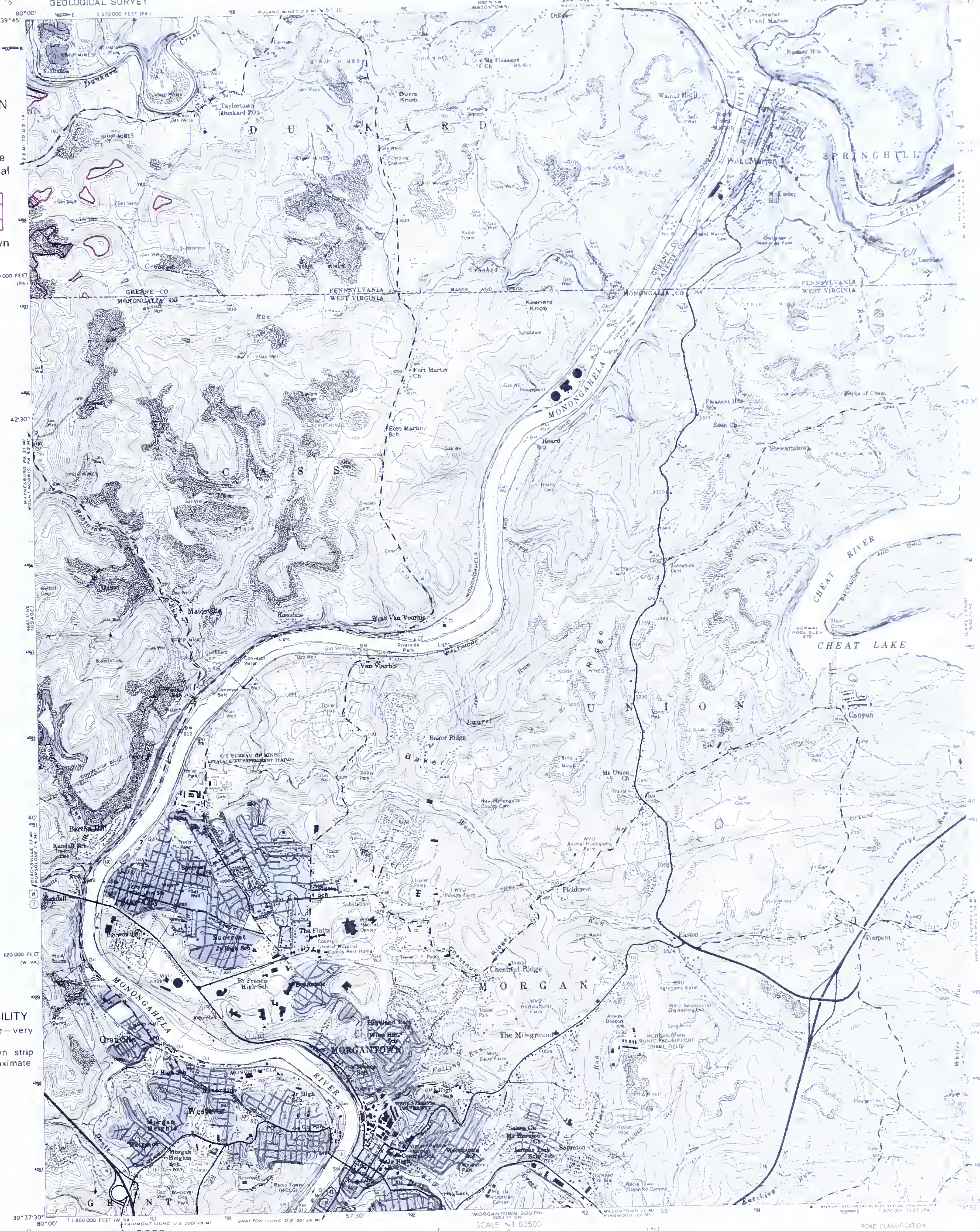
MORGANTOWN NORTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〰 Crop line of the Waynesburg coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–743, scale 1:24,000.

Limits of strip mining from Kent (1973), interpretation of topographic map, and field work.

CROP LINE AND MINED-OUT AREAS OF THE

WAYNESBURG COAL

MORGANTOWN NORTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MORGANTOWN NORTH QUADRANGLE
WEST VIRGINIA–PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

wb Waynesburg coal

s Sewickley coal

prd Pittsburgh rider coal

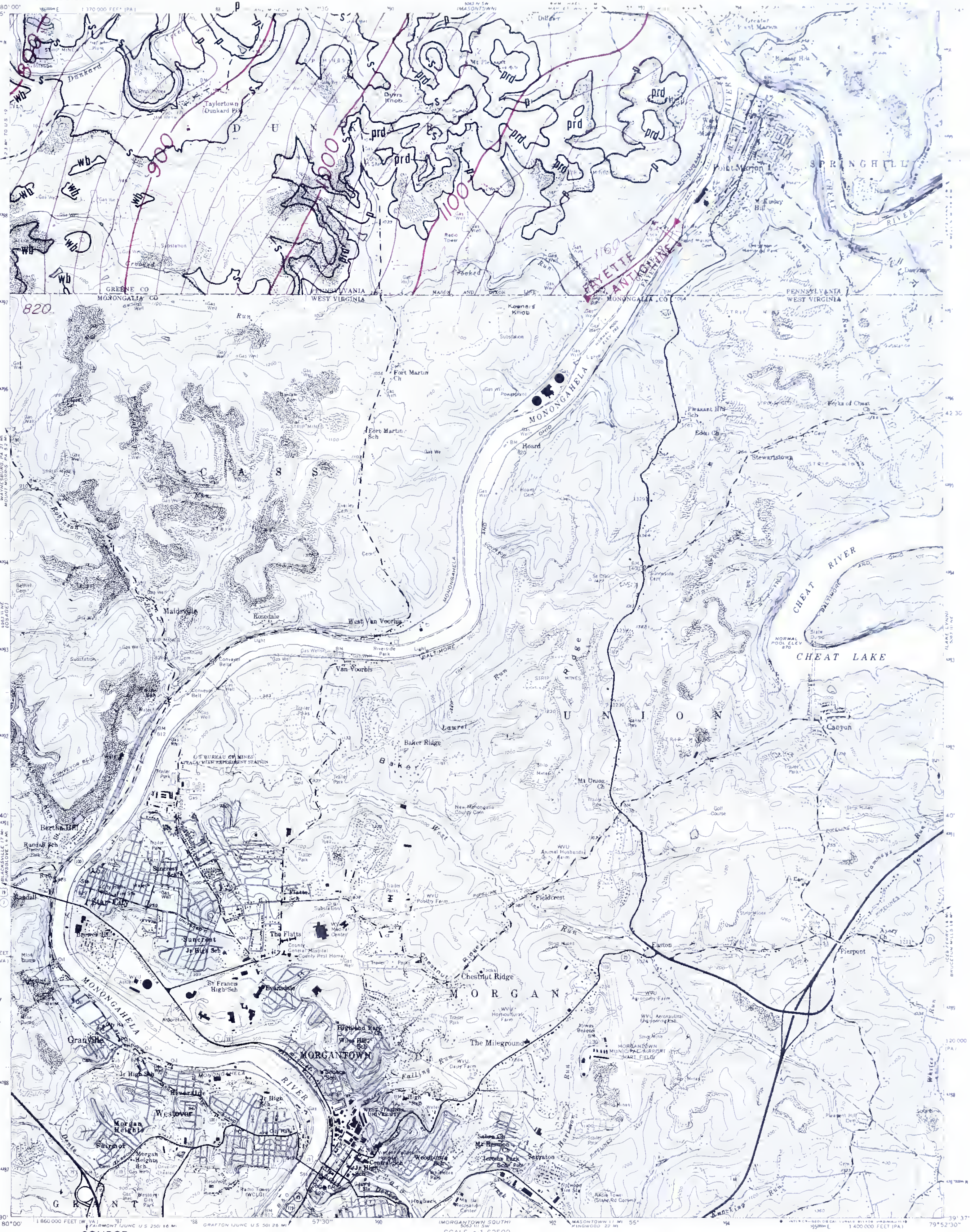
p Pittsburgh coal

Anticline
Showing axial-plane trace and direction of plunge.

900 Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Coal crop lines—very good
Structure contours—very good



SOURCE

Crop lines and structure contours from Kent, B. H. (1973), *Geologic map of parts of the Masontown and Morgantown North quadrangles, Greene County, Pennsylvania.* U.S. Geological Survey Miscellaneous Geologic Investigations Map I-743, scale 1:24,000. Minor re-correlation made by C. H. Dodge and A. O. Glover.

UTM GRID AND 1978 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route

QUADRANGLE LOCATION

COAL CROP LINES AND STRUCTURE CONTOURS

MORGANTOWN NORTH

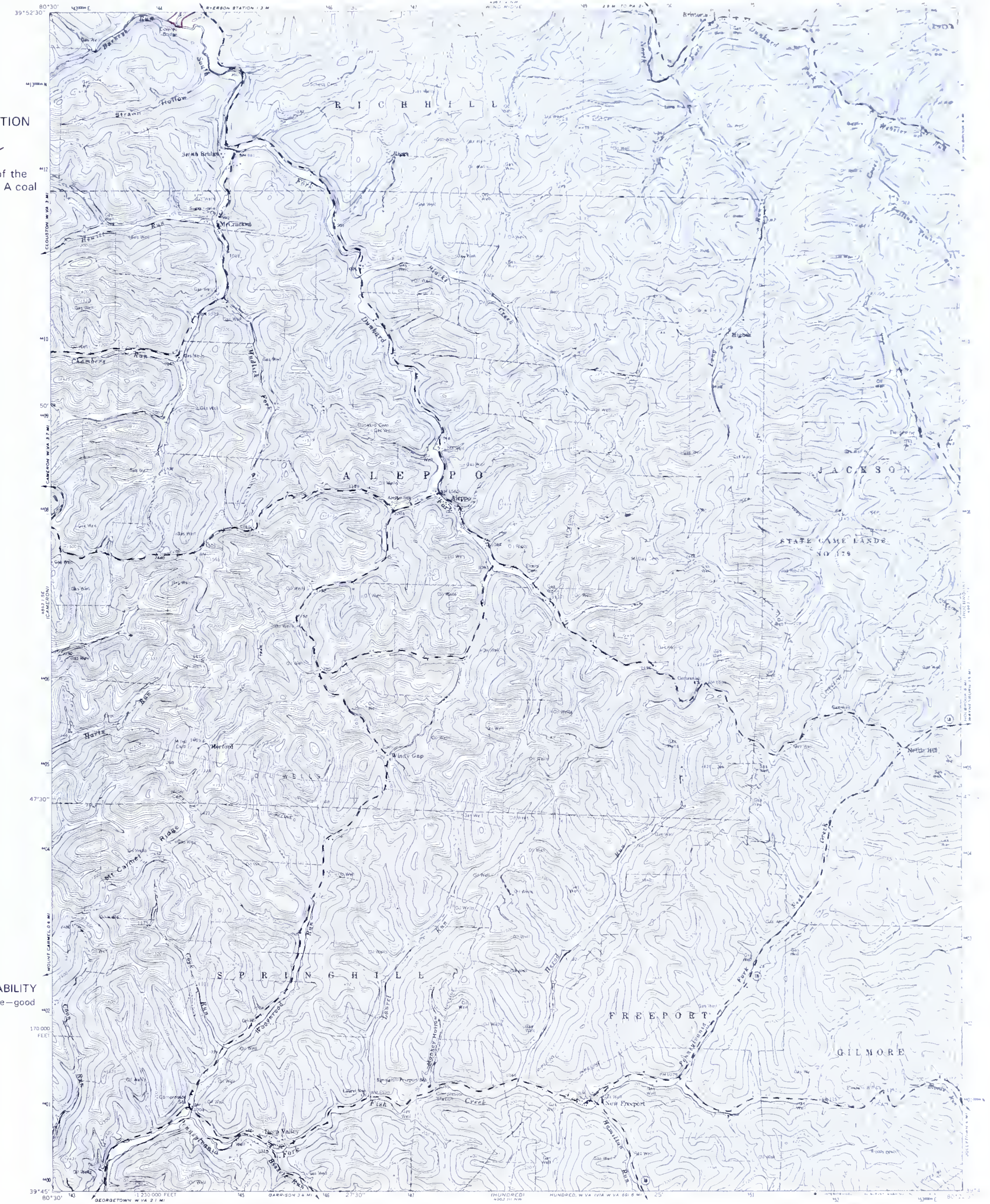
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

MAP RELIABILITY

Coal crop line—good



SOURCE

Crop line modified by A. D. Glover from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION
Medium-duty
Light-duty
Unimproved dirt
State Route

CROP LINE OF THE
WAYNESBURG A COAL

NEW FREEPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

w
Washington coal

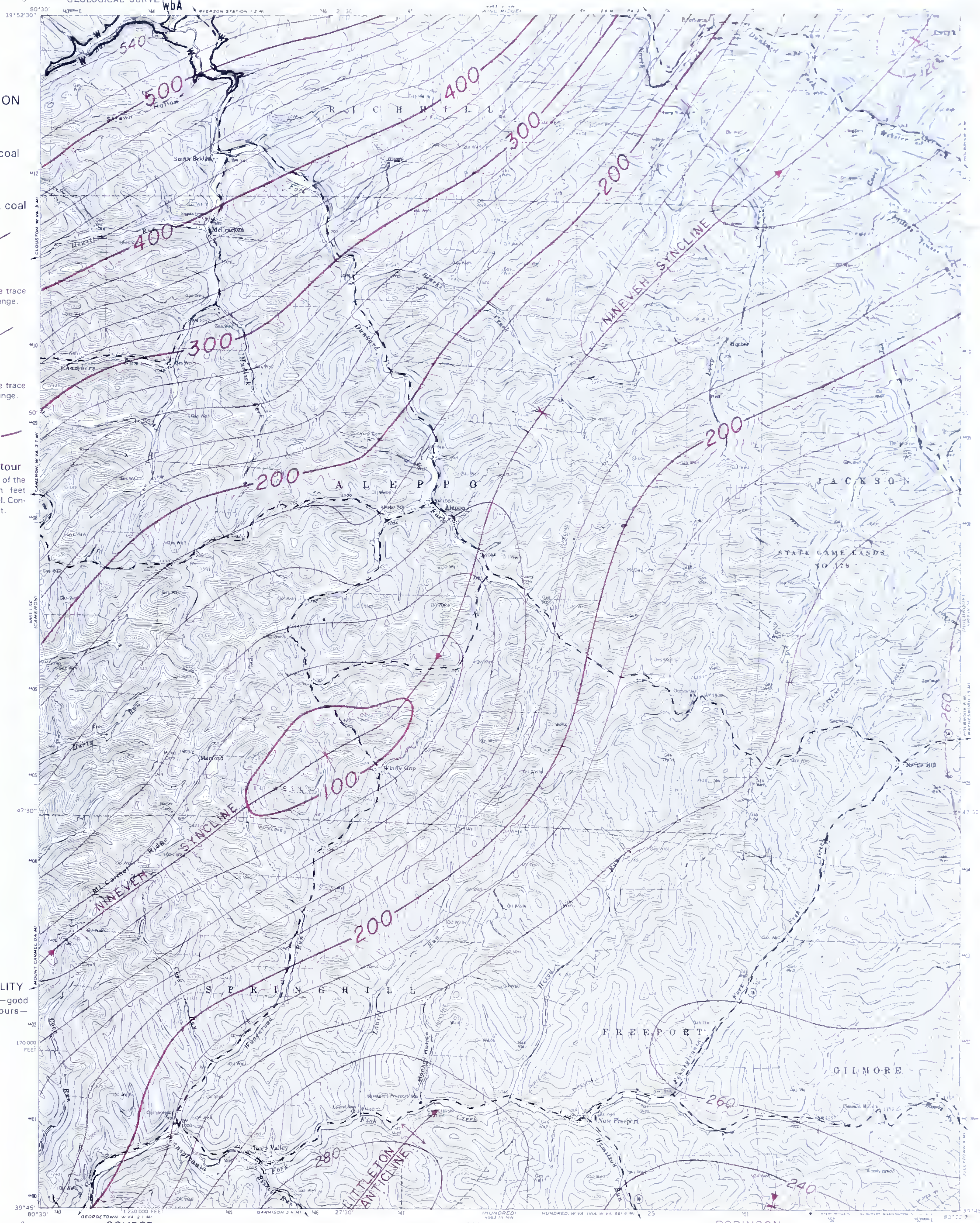
wbA
Waynesburg A coal

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

—200—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY
Coal crop lines—good
Structure contours—good



ROBINSON SYNCLINE

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION
Medium-duty Light-duty
Unimproved dirt
State Route

SOURCE

Crop lines modified by A. D. Glover and structure contours modified by C. H Dodge from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

COAL CROP LINE AND STRUCTURE CONTOURS

NEW FREEPORT

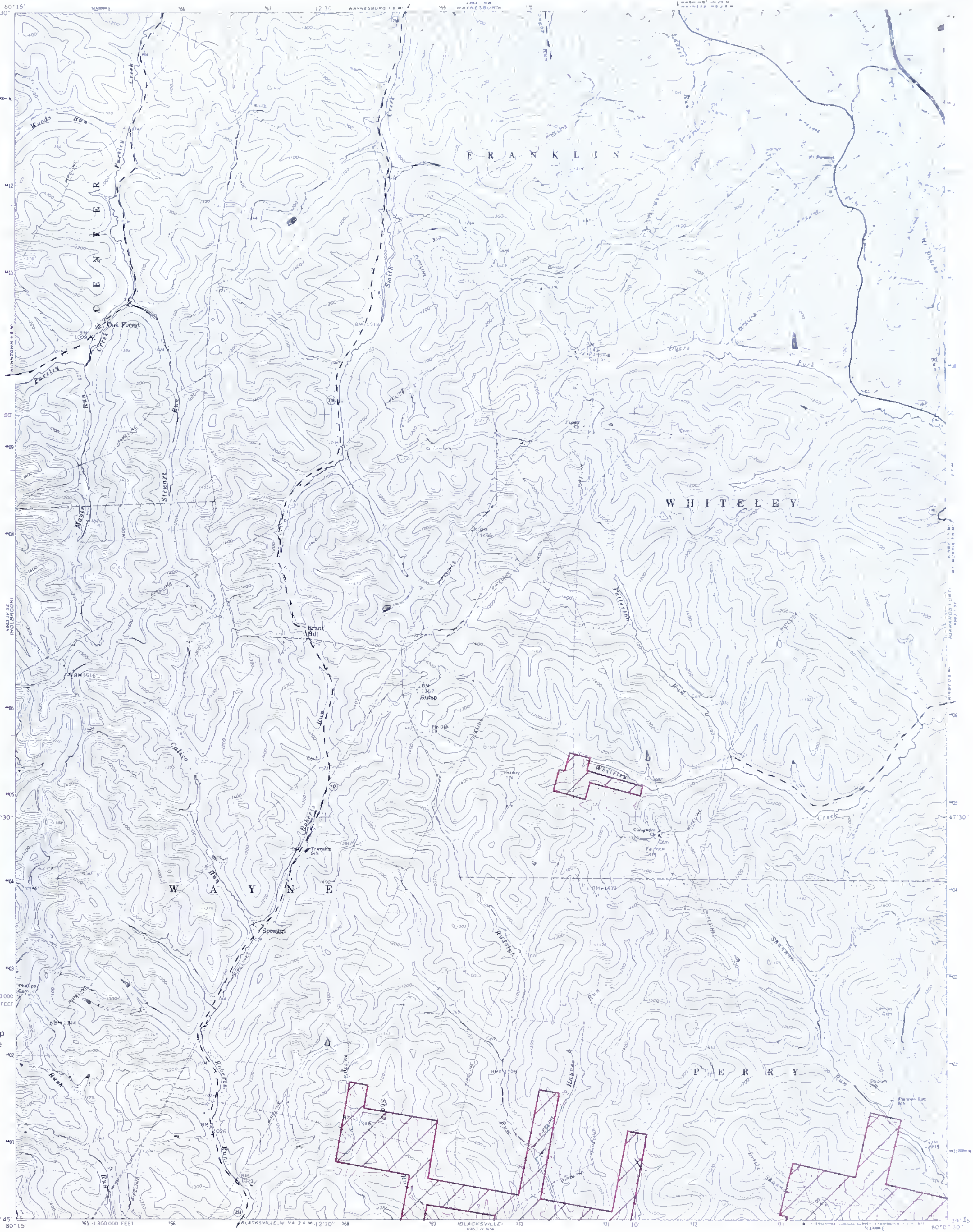
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION

Heavy duty — Light duty
Medium duty — Unimproved dirt
U.S. Route — State Route
Interstate Route

PENNSYLVANIA

QUADRANGLE LOCATION

MINED-OUT AREAS OF THE
PITTSBURGH COAL

OAK FOREST

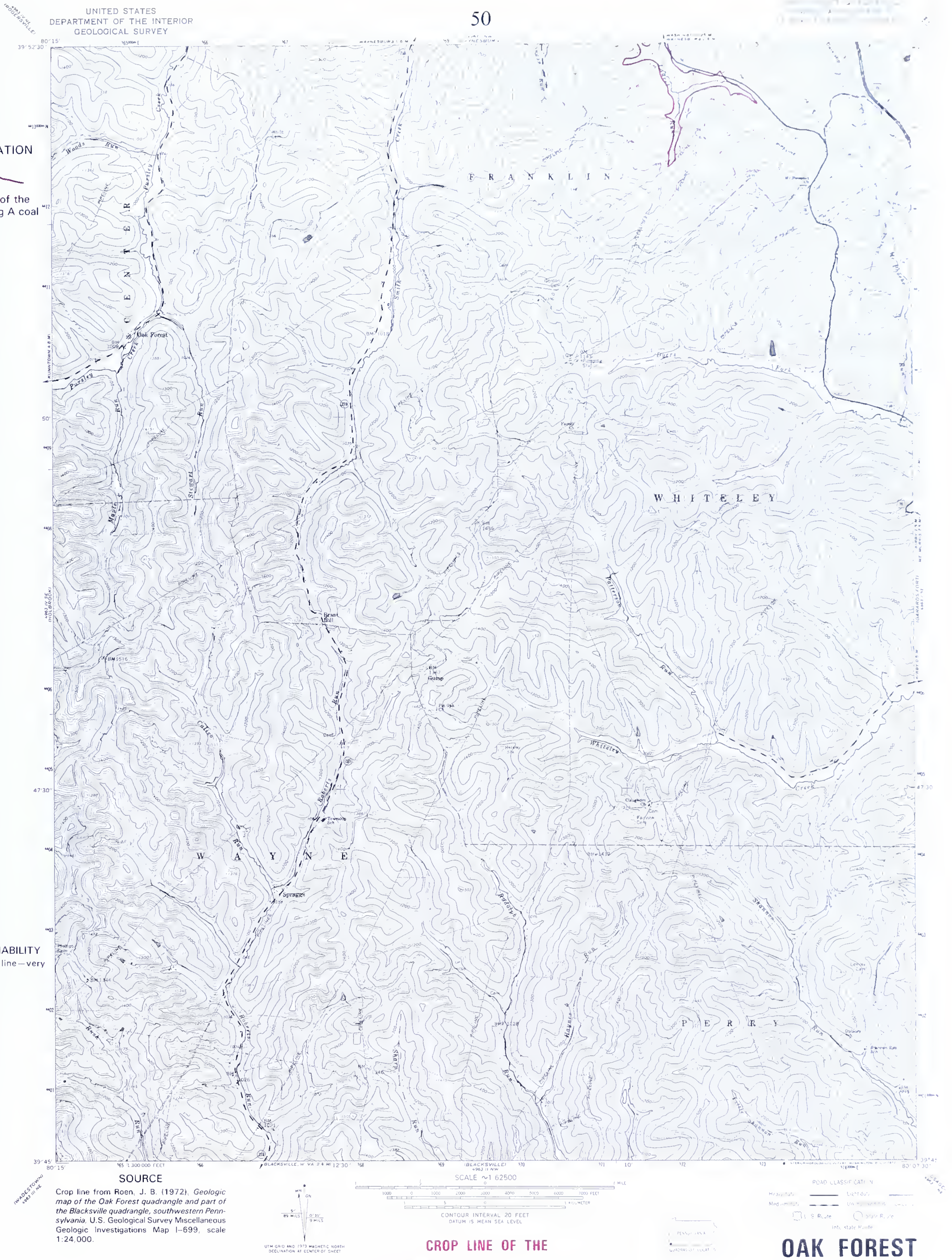
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

MAP RELIABILITY

Coal crop line—very good



SOURCE

Crop line from Roen, J. B. (1972), *Geologic map of the Oak Forest quadrangle and part of the Blacksville quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–699, scale 1:24,000.

CROP LINE OF THE
WAYNESBURG A COAL

OAK FOREST

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

W
Washington coal

wbA
Waynesburg A coal

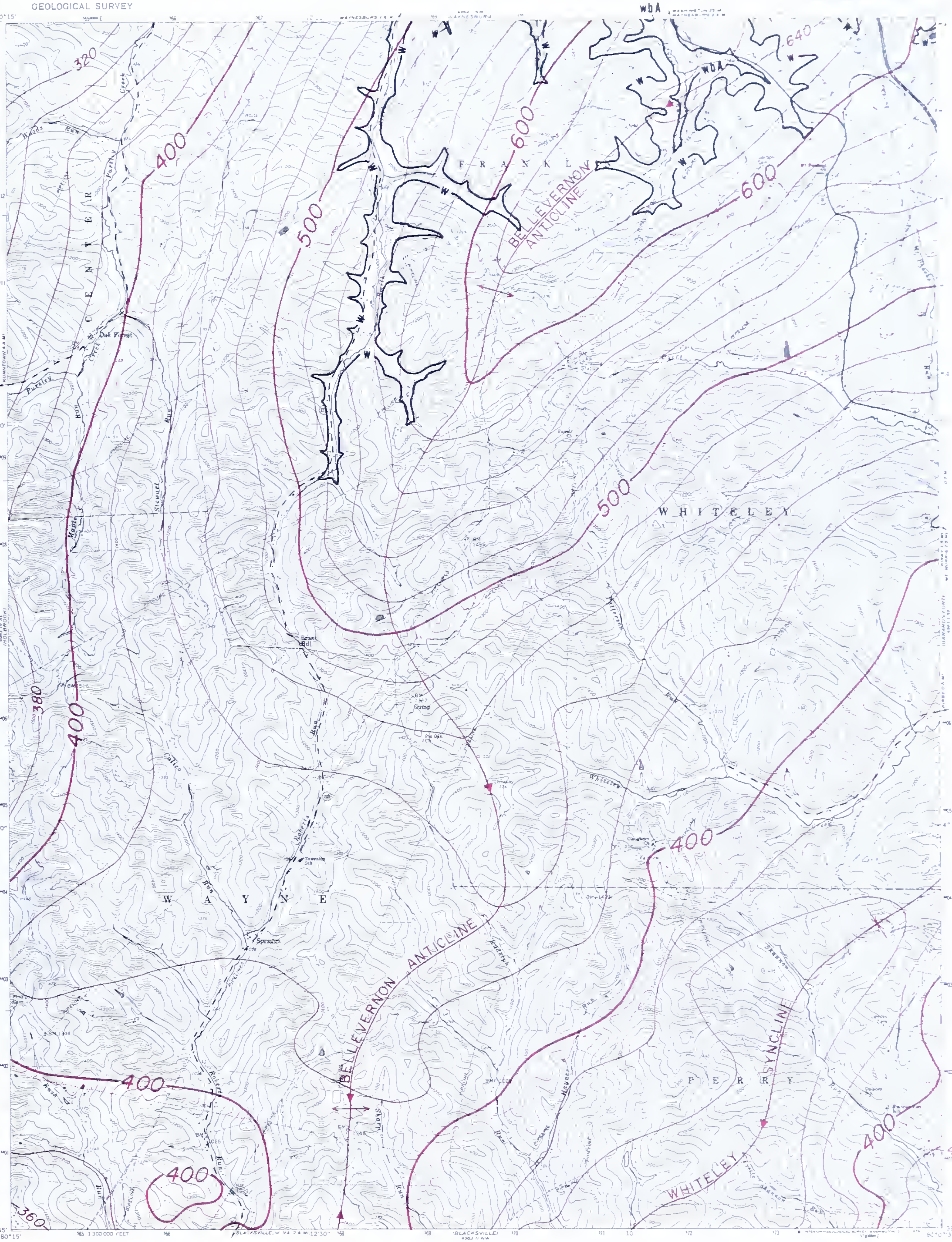
Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

400
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Coal crop lines—very good
Structure contours—very good



SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

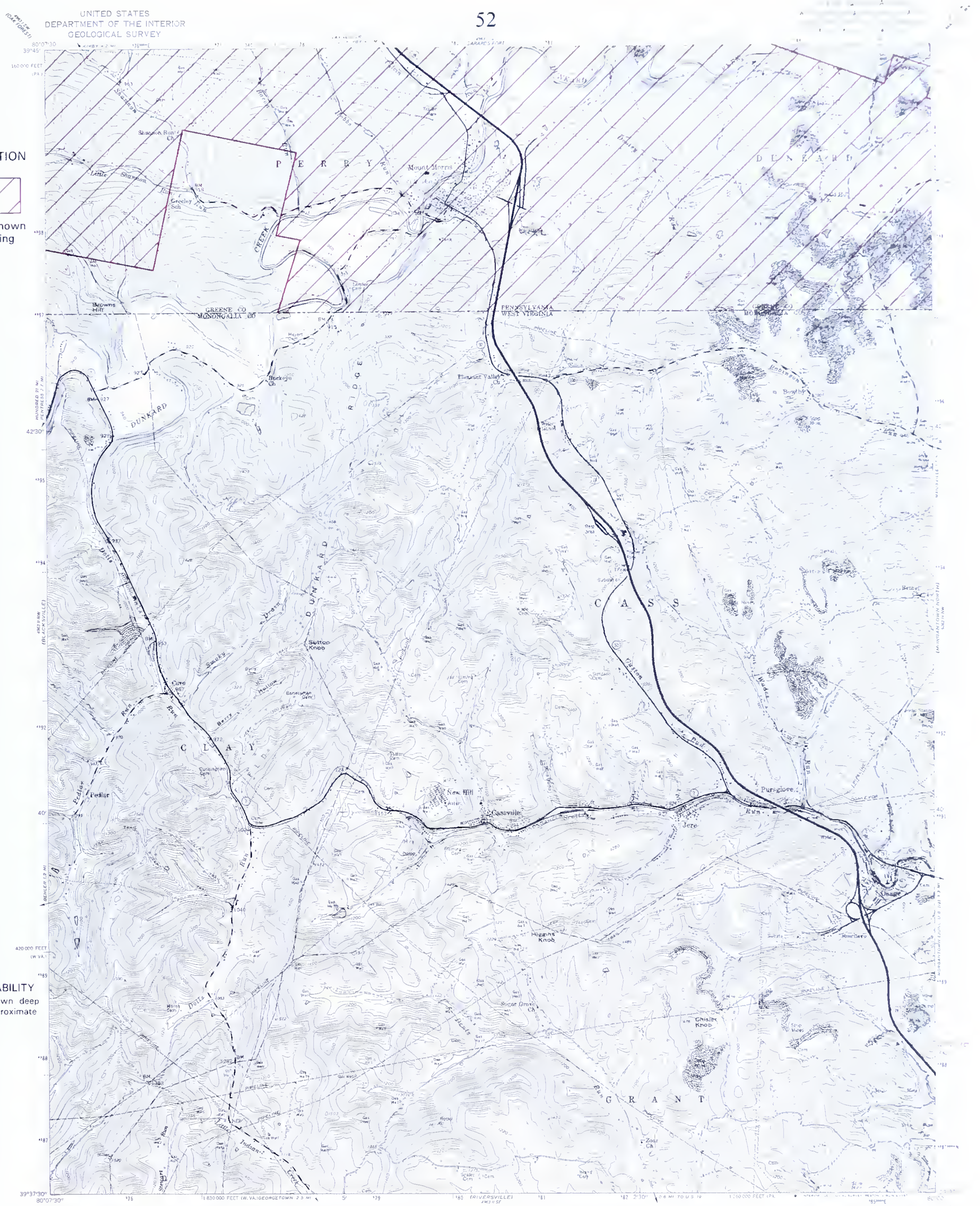
SOURCE

Crop lines and structure contours from Roen, J. B (1972), *Geologic map of the Oak Forest quadrangle and part of the Blacksville quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-699 scale 1:24,000. Structure contours modified slightly by C. H. Oodge.

COAL CROP LINES AND STRUCTURE CONTOURS

OAK FOREST

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate

SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

SCALE ~1 62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MINED-OUT AREA OF THE PITTSBURGH COAL

OSAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

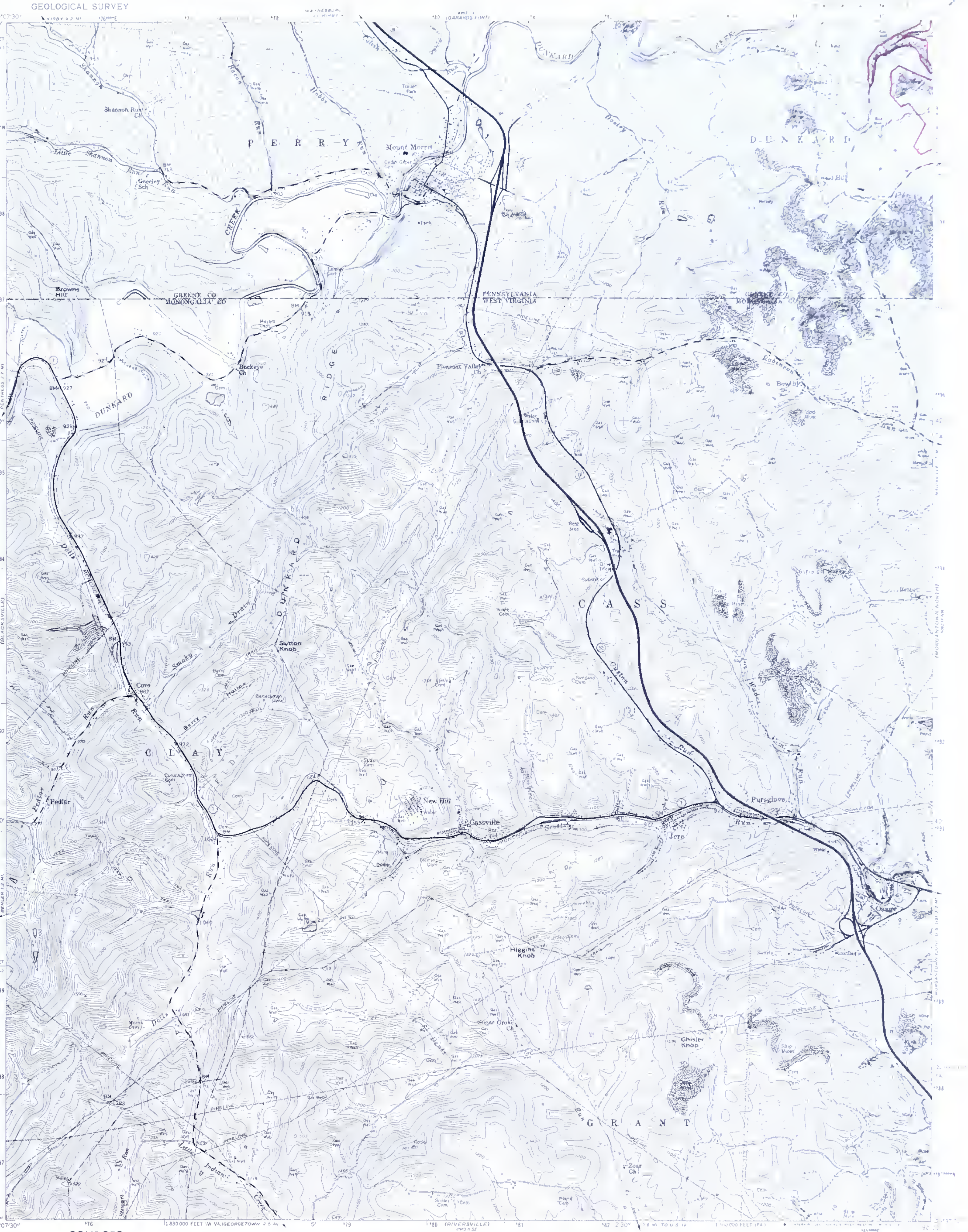
Crop line of the Sewickley coal

▨ Extent of known strip mining

▨ Extent of known deep mining

MAP RELIABILITY

Coal crop line—very good
Limits of known strip mining—approximate
Limits of known deep mining—approximate



SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SOURCES

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-663, scale 1:24,000.

Limits of strip mining from Kent (1971), interpretation of topographic map, and field work.

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1975), unpublished map.

CROP LINE AND MINED-OUT AREAS OF THE
SEWICKLEY COAL

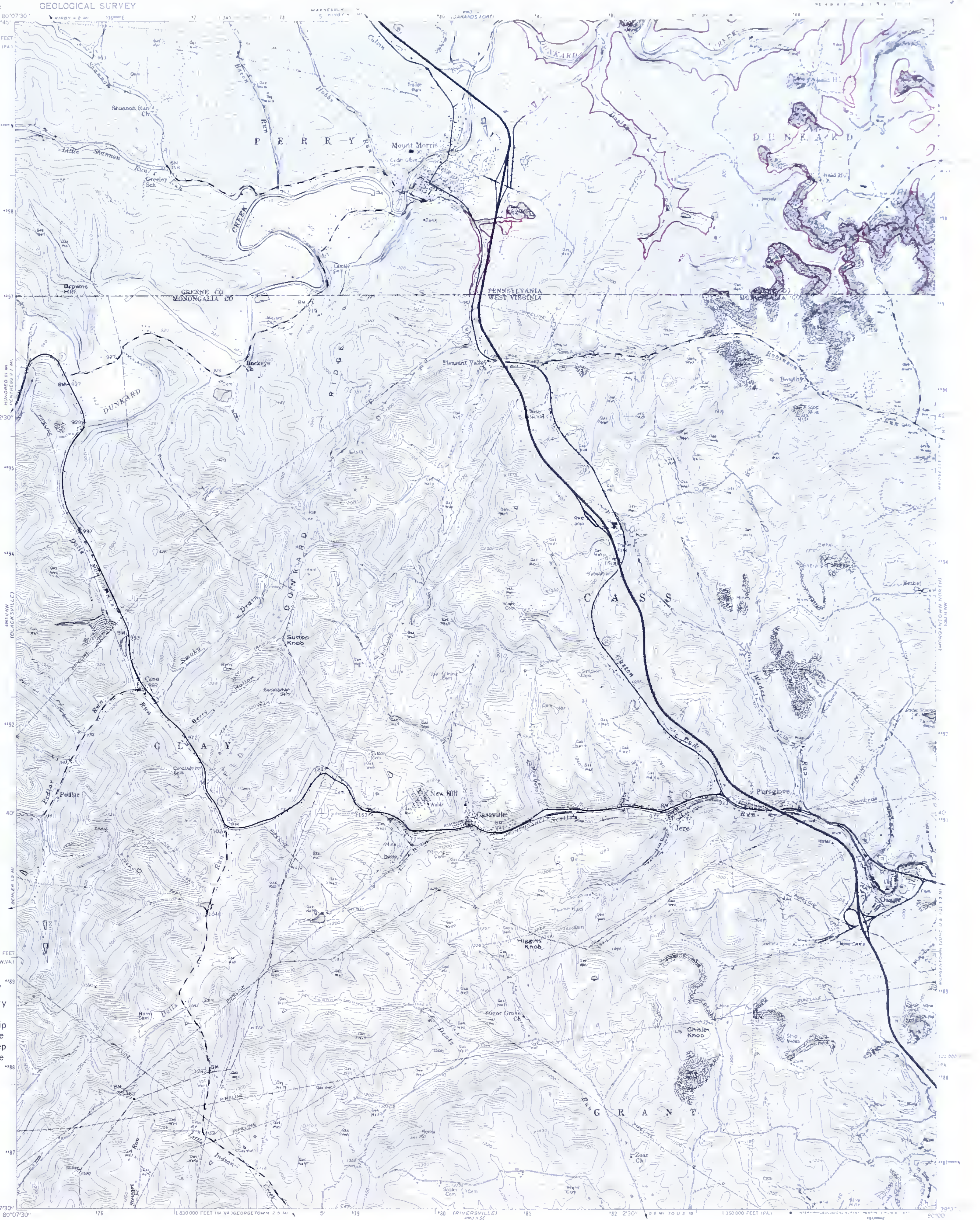
OSAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〰 Crop line of the Waynesburg coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

Limits of known deep mining—approximate

SOURCES

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–663, scale 1:24,000.

Limits of strip mining from Kent (1971), interpretation of topographic map, and field work.

CROP LINE AND MINED-OUT AREAS OF THE WAYNESBURG COAL

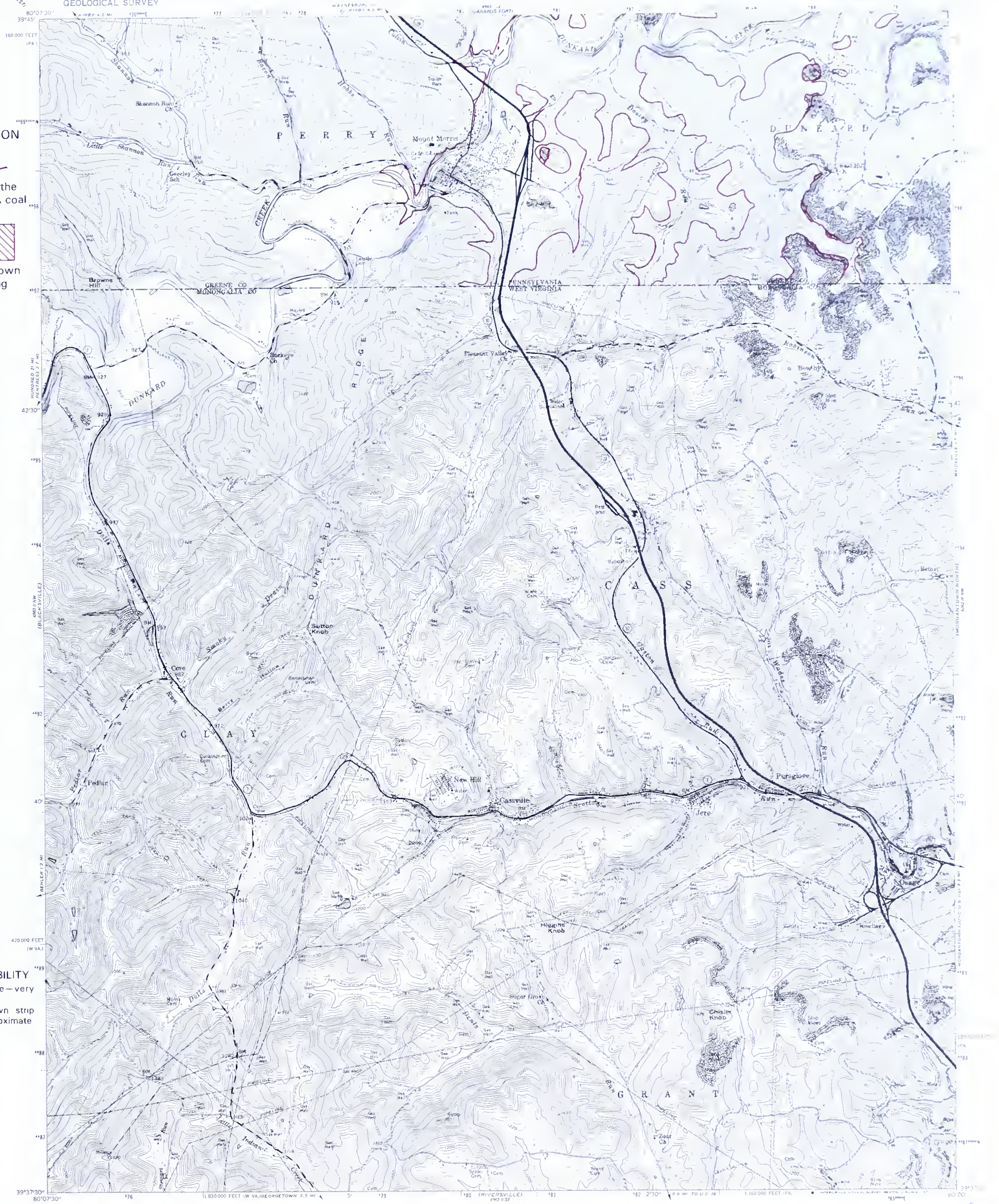
OSAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

〜 Crop line of the Waynesburg A coal

▨ Extent of known strip mining



MAP RELIABILITY

Coal crop line—very good

Limits of known strip mining—approximate

SOURCES

Crop line from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–663, scale 1:24,000.

Limits of strip mining from Kent (1971), interpretation of topographic map, and field work.

CROP LINE AND MINED-OUT AREAS OF THE WAYNESBURG A COAL

OSAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

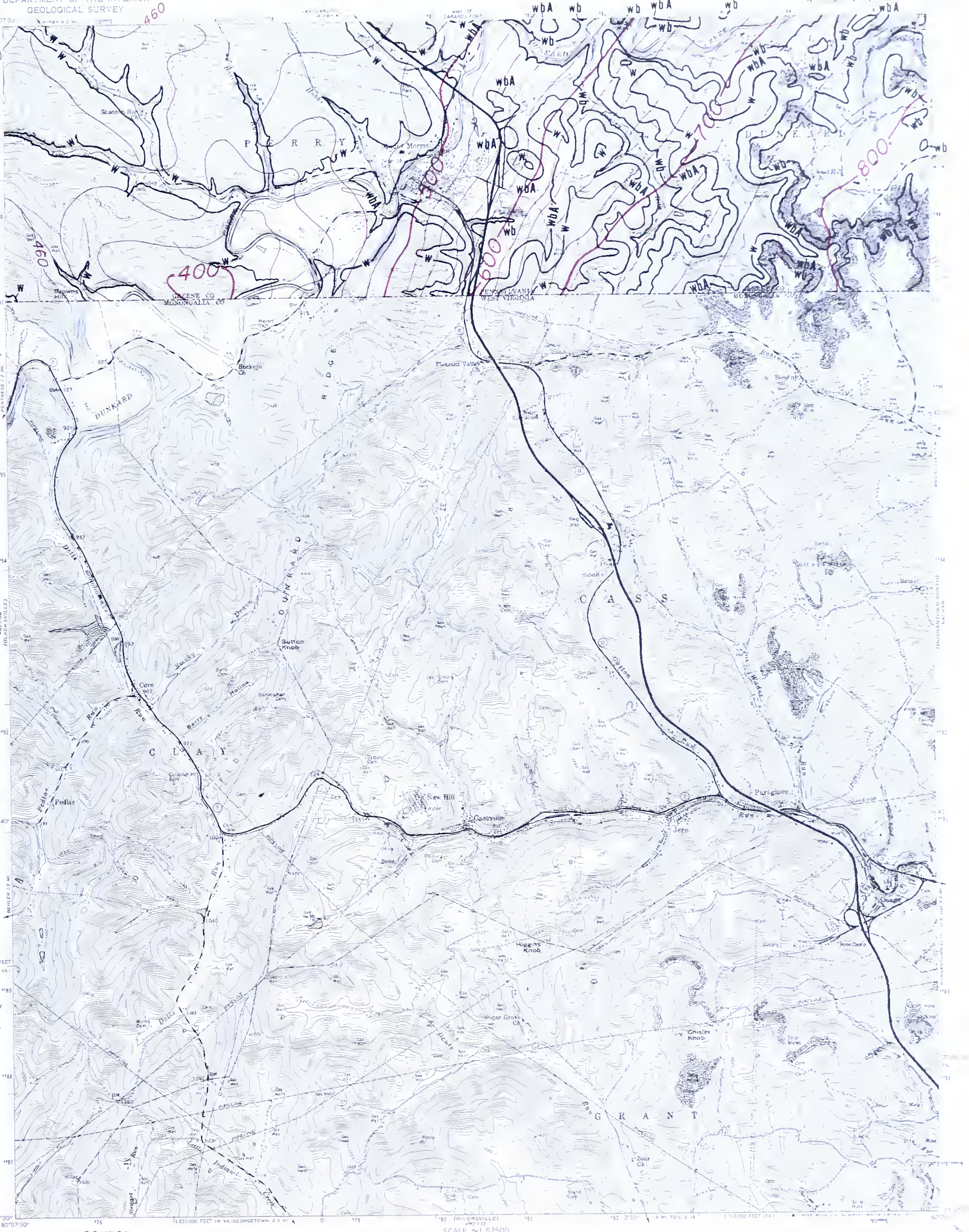
w
Washington coal

wbA
Waynesburg A coal

wb
Waynesburg coal

s
Sewickley coal

500
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.



MAP RELIABILITY
Coal crop lines—very good
Structure contours—very good

SOURCE

Crop lines and structure contours from Kent, B. H. (1971), *Geologic map of the Garards Fort quadrangle and part of the Osage quadrangle, Greene County, Pennsylvania*, U.S. Geological Survey Miscellaneous Geologic Investigations Map I–663, scale 1:24,000.

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62 500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

COAL CROP LINES AND STRUCTURE CONTOURS

OSAGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PROSPERITY QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

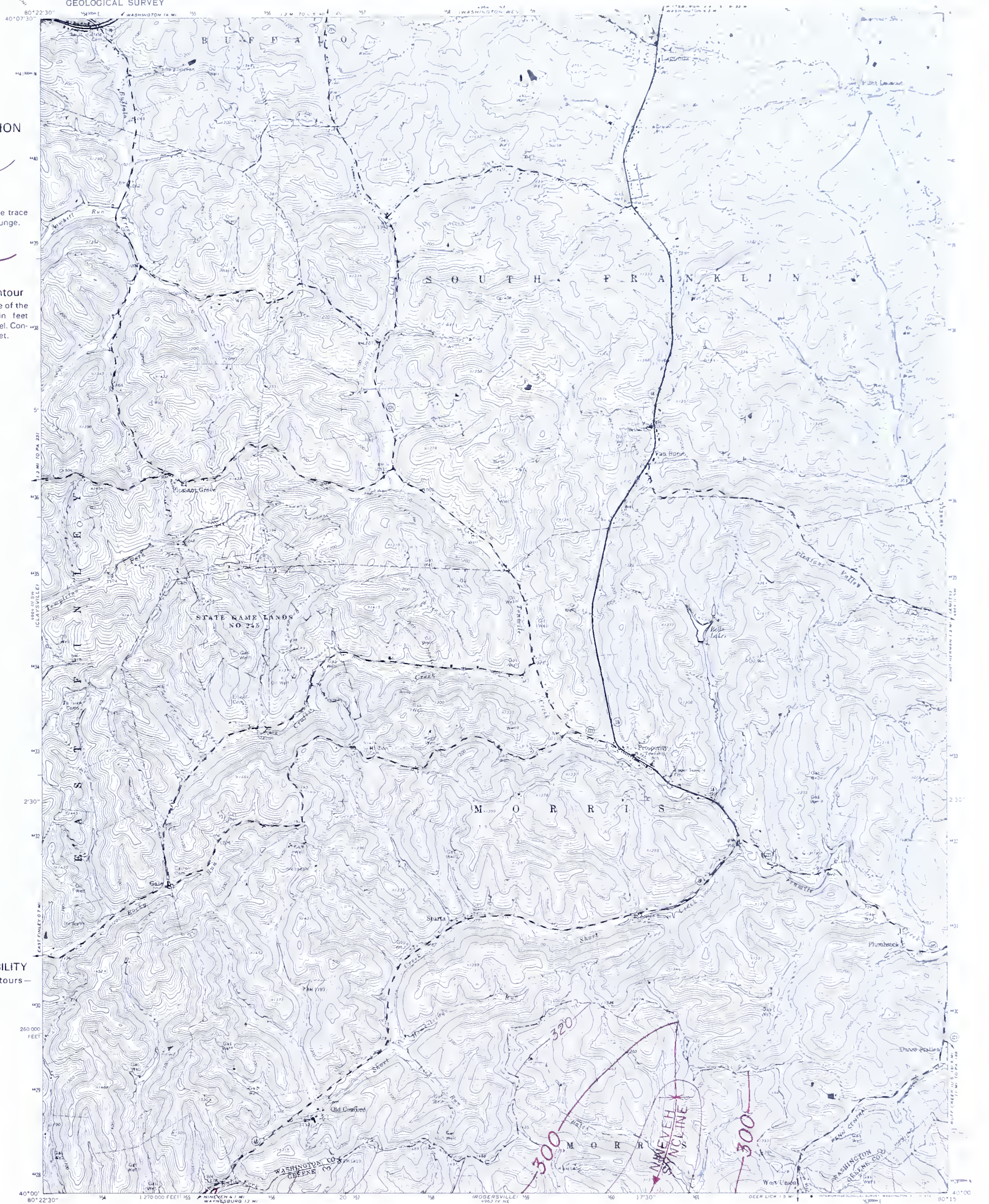
Syncline
Showing axial-plane trace and direction of plunge.

—300—

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Structure contours—very good



SOURCE

Structure contours modified by C. H. Dodge from Kent, B. H (1972), *Geologic map of the Prosperity quadrangle, southwestern Pennsylvania,* U.S. Geological Survey Geologic Quadrangle Map GO–1003, scale 1:24,000.

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
Interstate Route
State Route

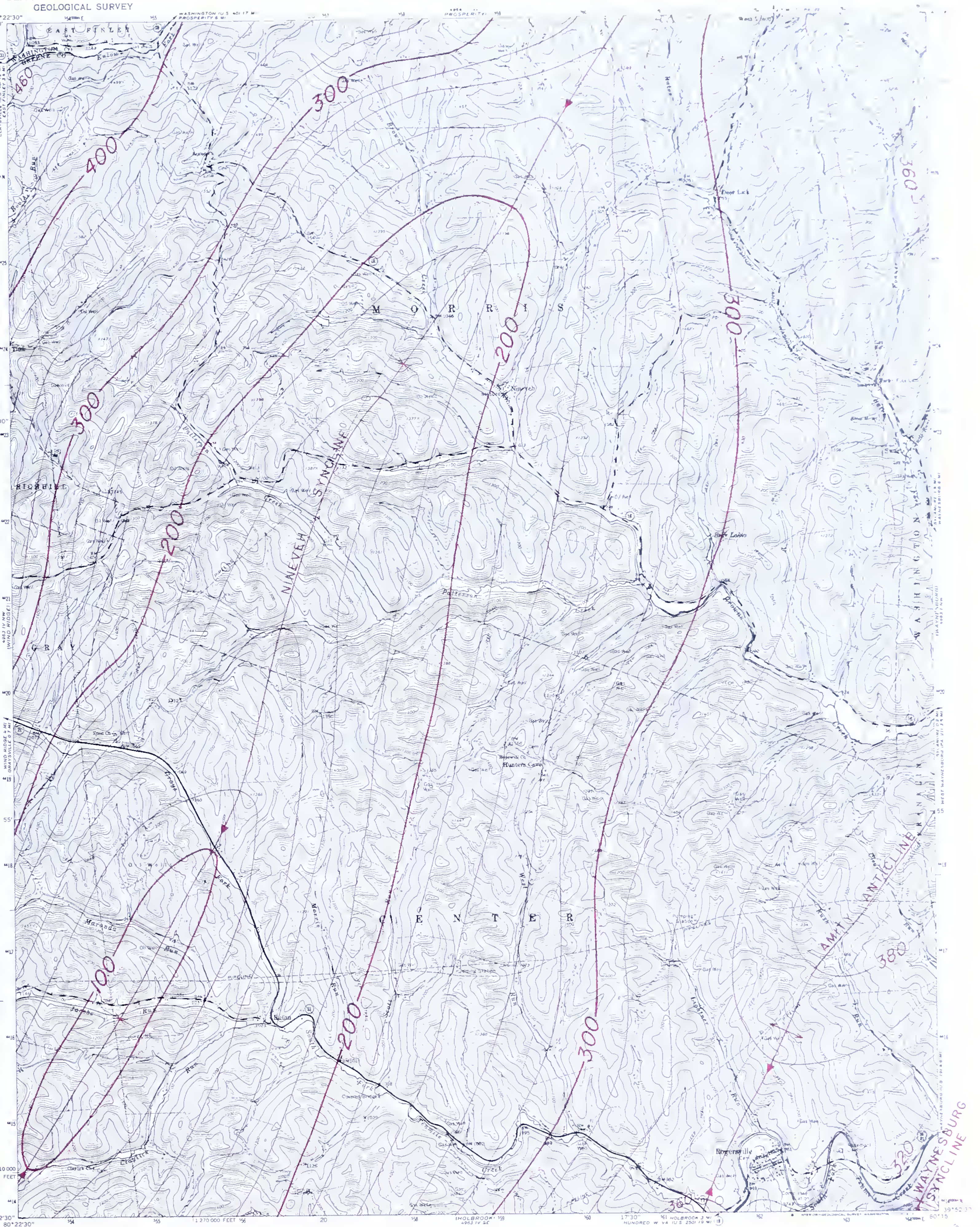
PENNSYLVANIA
QUADRANGLE LOCATION

STRUCTURE CONTOURS

PROSPERITY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ROGER[illegible]
PE[illegible]
[illegible]



EXPLANATION

Anticline
Showing axial-plane trace and direction of plunge

Syncline
Showing axial-plane trace and direction of plunge.

—200—

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY

Structure contours—good

SOURCE

Structure contours modified by C. H. Dodge from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
State Route

PENNSYLVANIA
QUADRANGLE LOCATION

STRUCTURE CONTOURS

ROGERSVILLE

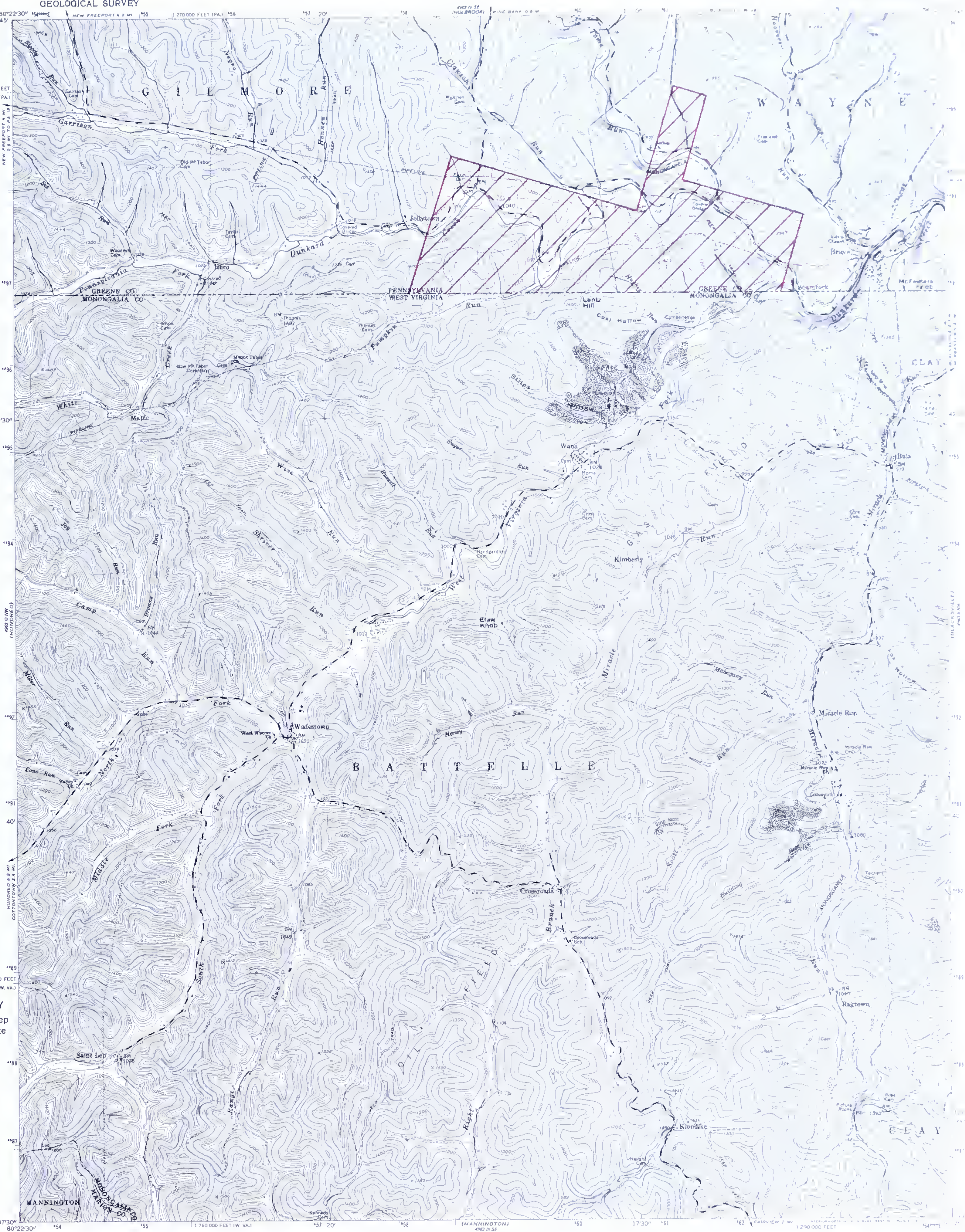
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY

Limits of known deep mining—approximate



SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION

Medium-duty
Light-duty
Unimproved dirt
State Route

MINED-OUT AREA OF THE PITTSBURGH COAL

WADESTOWN

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

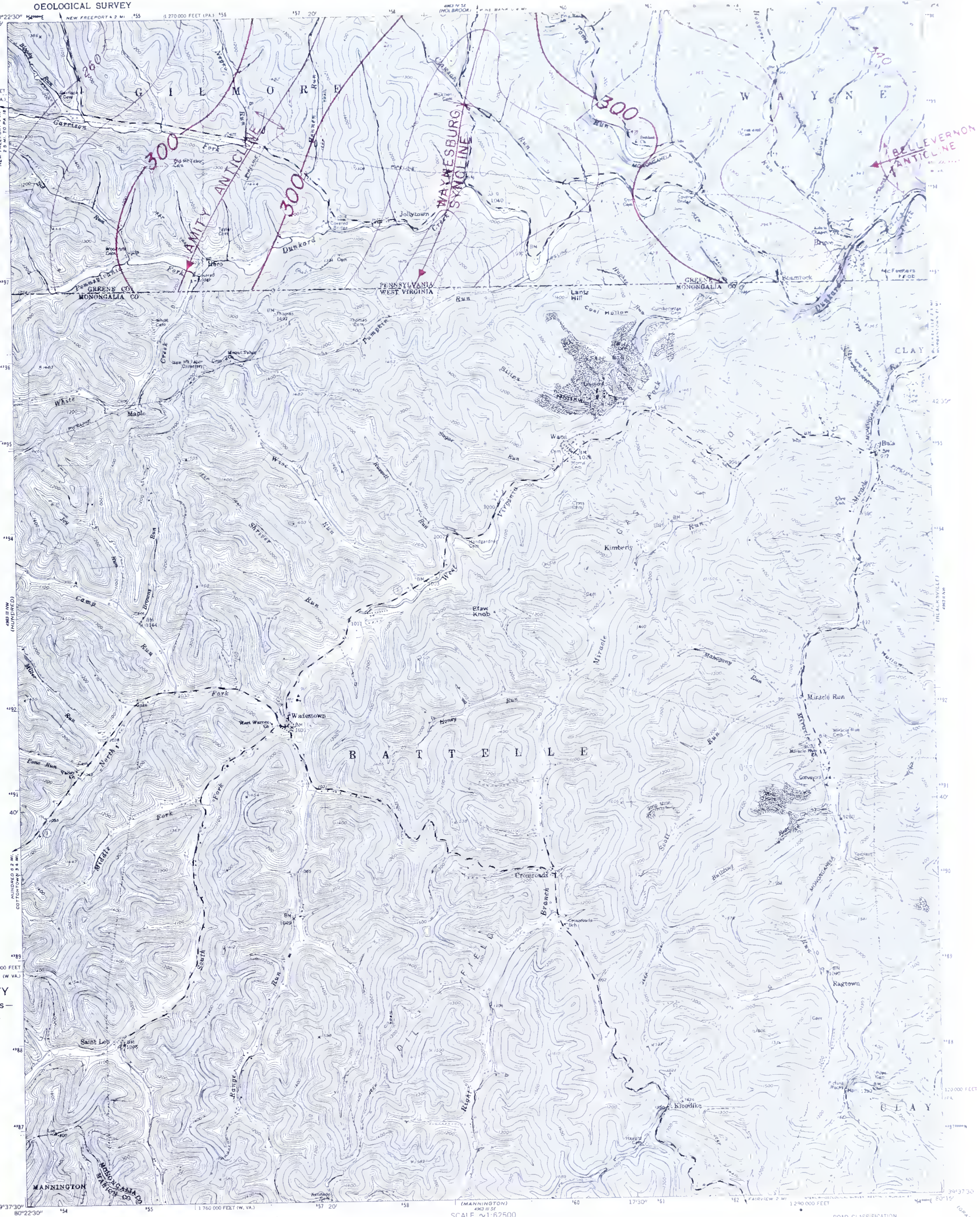
EXPLANATION

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

—300—

Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.



MAP RELIABILITY

Structure contours—good to very good

SOURCE

Structure contours modified by C. H. Dodge from Stone, R. W. (1932), *Geology and mineral resources of Greene County, Pennsylvania*, Pennsylvania Geological Survey, 4th ser., County Report 30, 175 p.

STRUCTURE CONTOURS

WADESTOWN

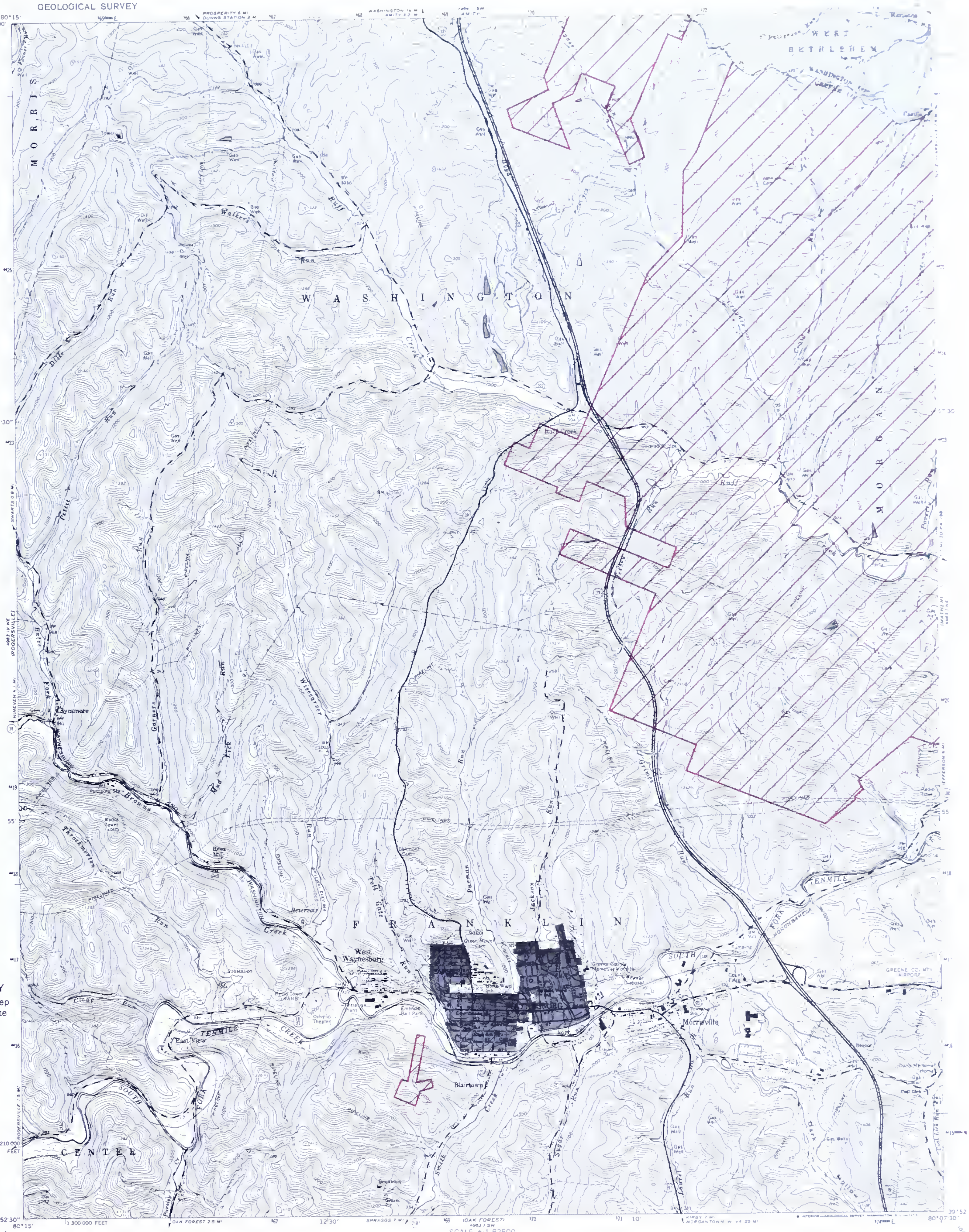
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WAYNESBURG QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

▨ Extent of known deep mining

MAP RELIABILITY
Limits of known deep mining—approximate



SCALE 1:62500
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route

SOURCE

Limits of deep mining from Pennsylvania Department of Environmental Resources, Bureau of Mining and Reclamation (1978), unpublished map.

MINED-OUT AREAS OF THE

PITTSBURGH COAL

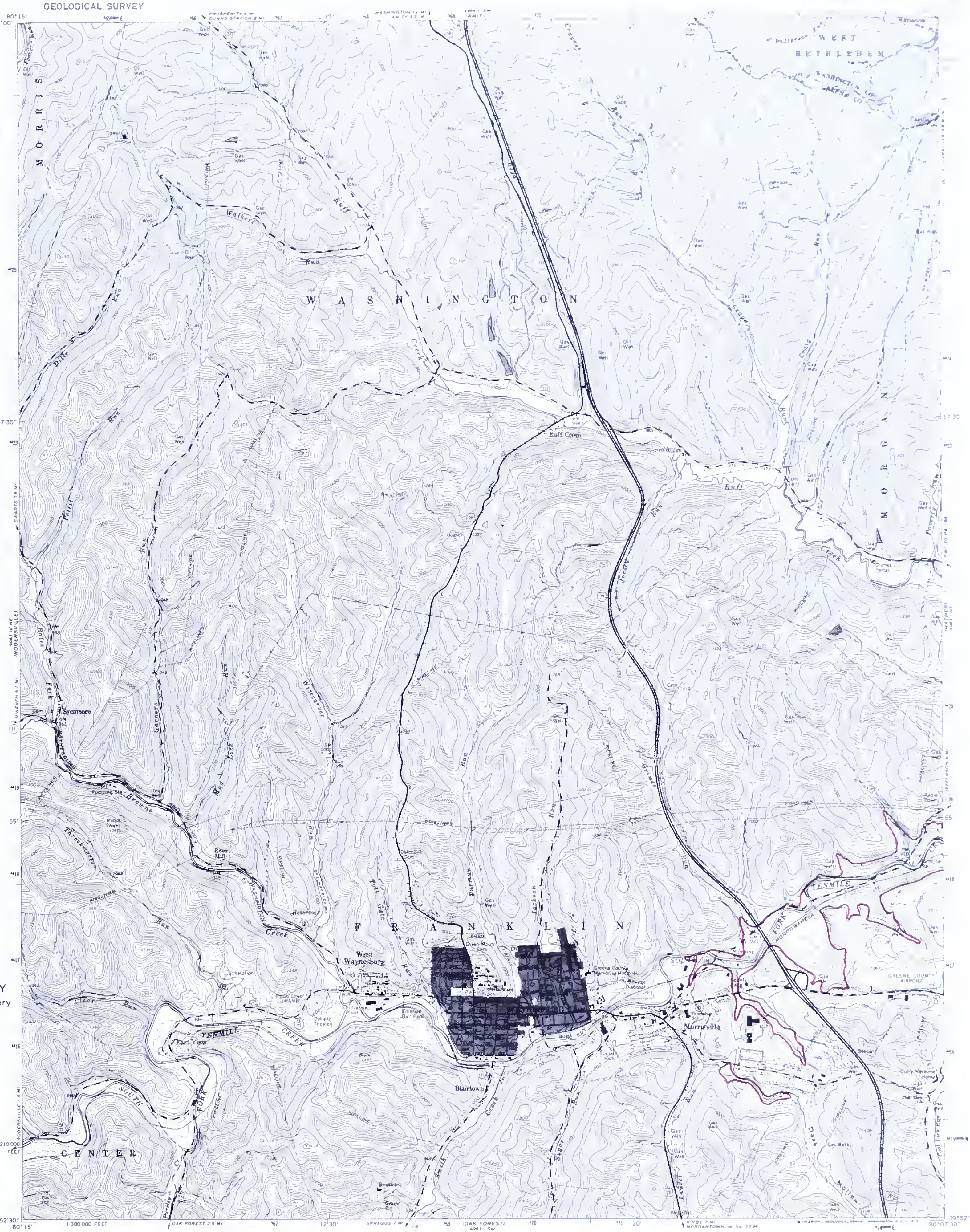
WAYNESBURG

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WAYNESBURG QUADRANGLE
PENNSYLVANIA
5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

Crop line of the Waynesburg coal



MAP RELIABILITY

Coal crop line—very good

SOURCE

Crop line from Roen, J. B. (1970), *Geologic map of the Waynesburg quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-838, scale 1:24,000.

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1 62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION

Heavy-duty | Light-duty
Medium-duty | Unimproved dirt
U.S. Route | State Route
Interstate Route

PENNSYLVANIA
QUADRANGLE LOCATION

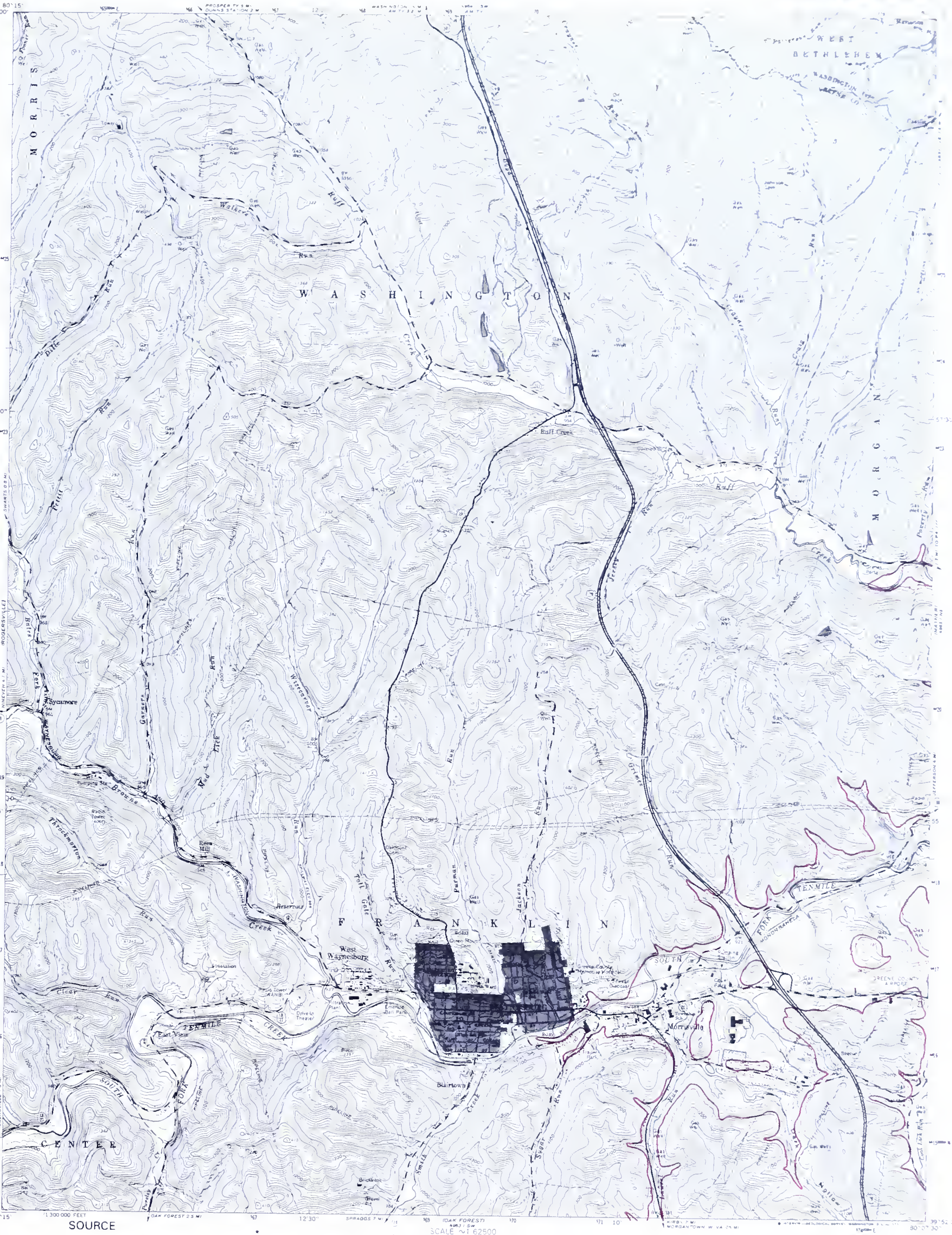
CROP LINE OF THE
WAYNESBURG COAL

WAYNESBURG

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal



SOURCE

Crop line from Roen, J. 8. (1970), *Geologic map of the Waynesburg quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ-838, scale 1:24,000.

MAP RELIABILITY

Coal crop line—very good

CROP LINE OF THE
WAYNESBURG A COAL

WAYNESBURG

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WAYNESBURG QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

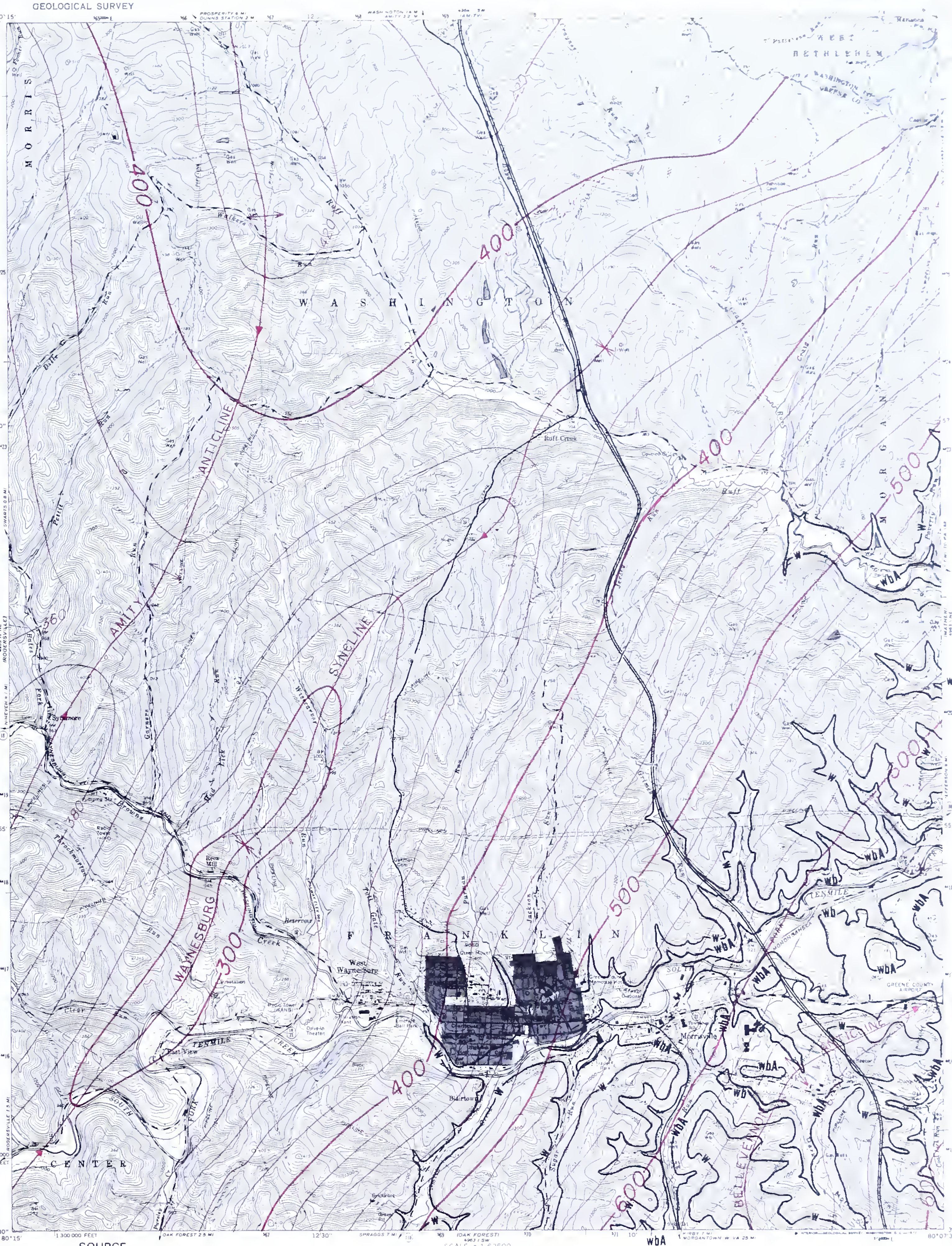
wb
Waynesburg coal

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

600
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY
Coal crop lines—very good
Structure contours—very good



SOURCE

Crop lines and structure contours from Roen, J. B. (1970), *Geologic map of the Waynesburg quadrangle, southwestern Pennsylvania*, U.S. Geological Survey Geologic Quadrangle Map GQ–838, scale 1:24,000. Structure contours modified slightly by C. H. Dodge.

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U S Route
State Route

COAL CROP LINES AND STRUCTURE CONTOURS

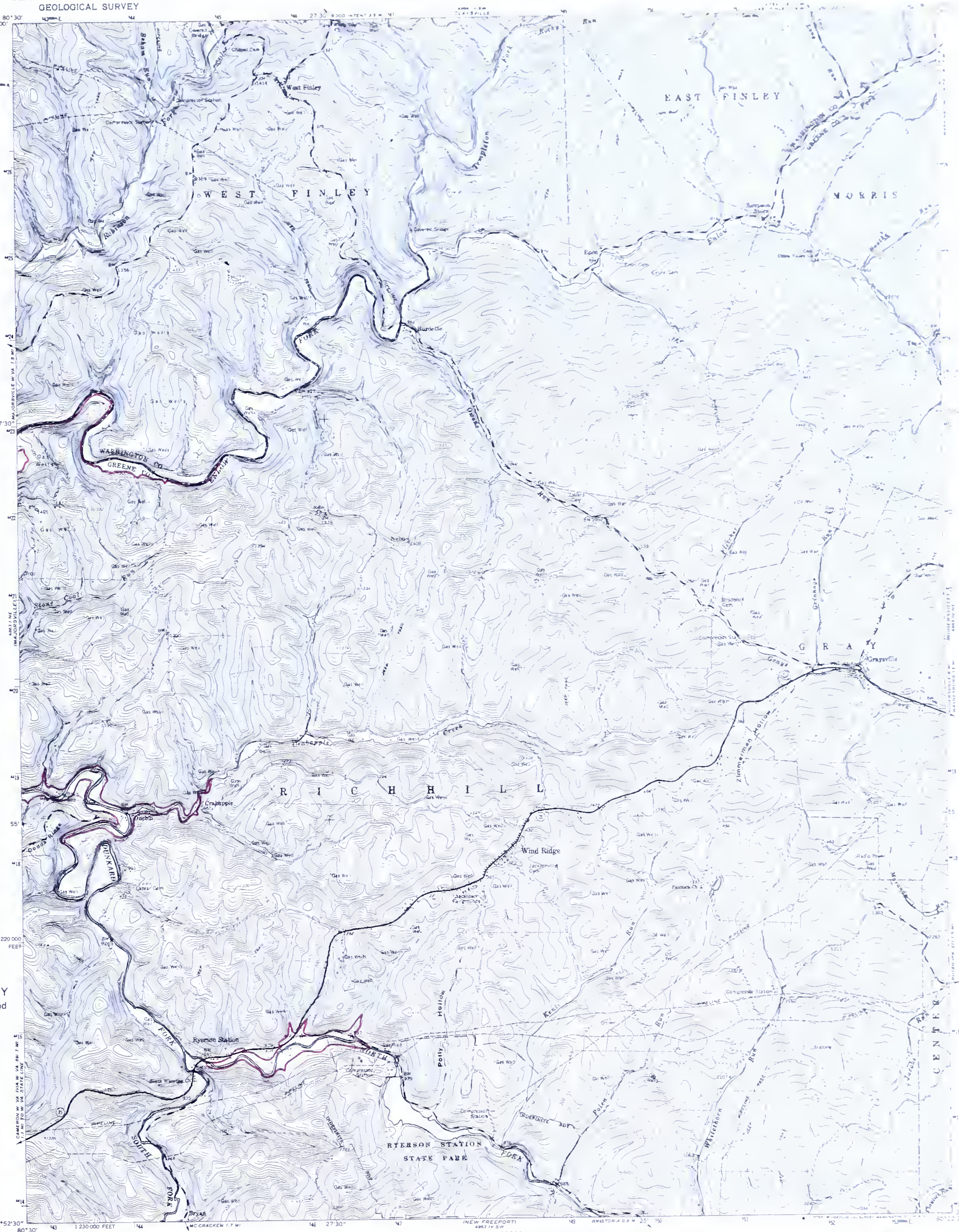
WAYNESBURG

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WIND RIDGE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

EXPLANATION

Crop line of the Waynesburg coal



MAP RELIABILITY

Coal crop line—good

SOURCE

Crop line modified by A. D. Glover from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

SCALE 1:62500

CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION

CROP LINE OF THE WAYNESBURG COAL

WIND RIDGE

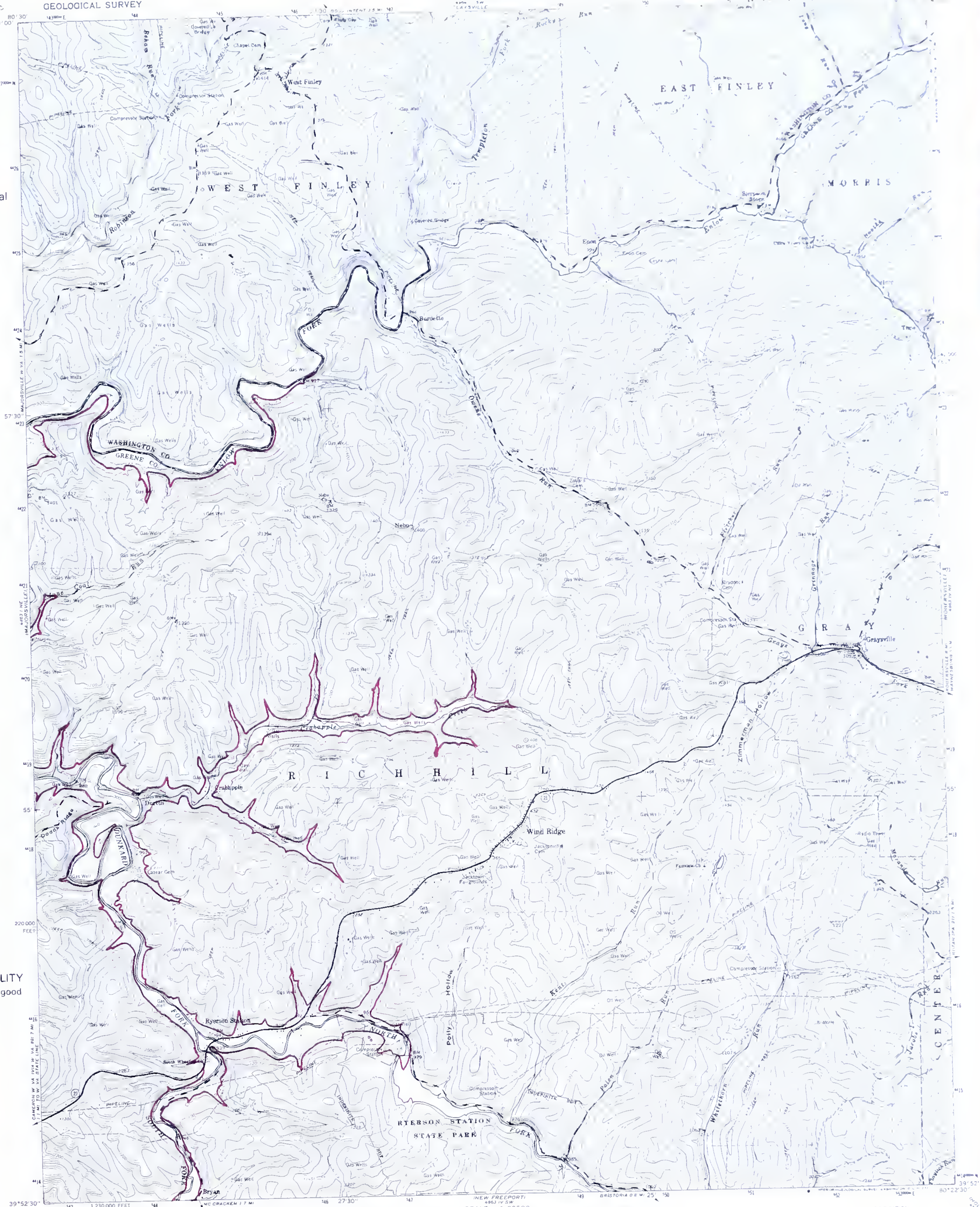
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

Crop line of the Waynesburg A coal

MAP RELIABILITY

Coal crop line—good



SOURCE

Crop line modified by A. D. Glover from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

CROP LINE OF THE

WAYNESBURG A COAL

WIND RIDGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EXPLANATION

w
Washington coal

wbA
Waynesburg A coal

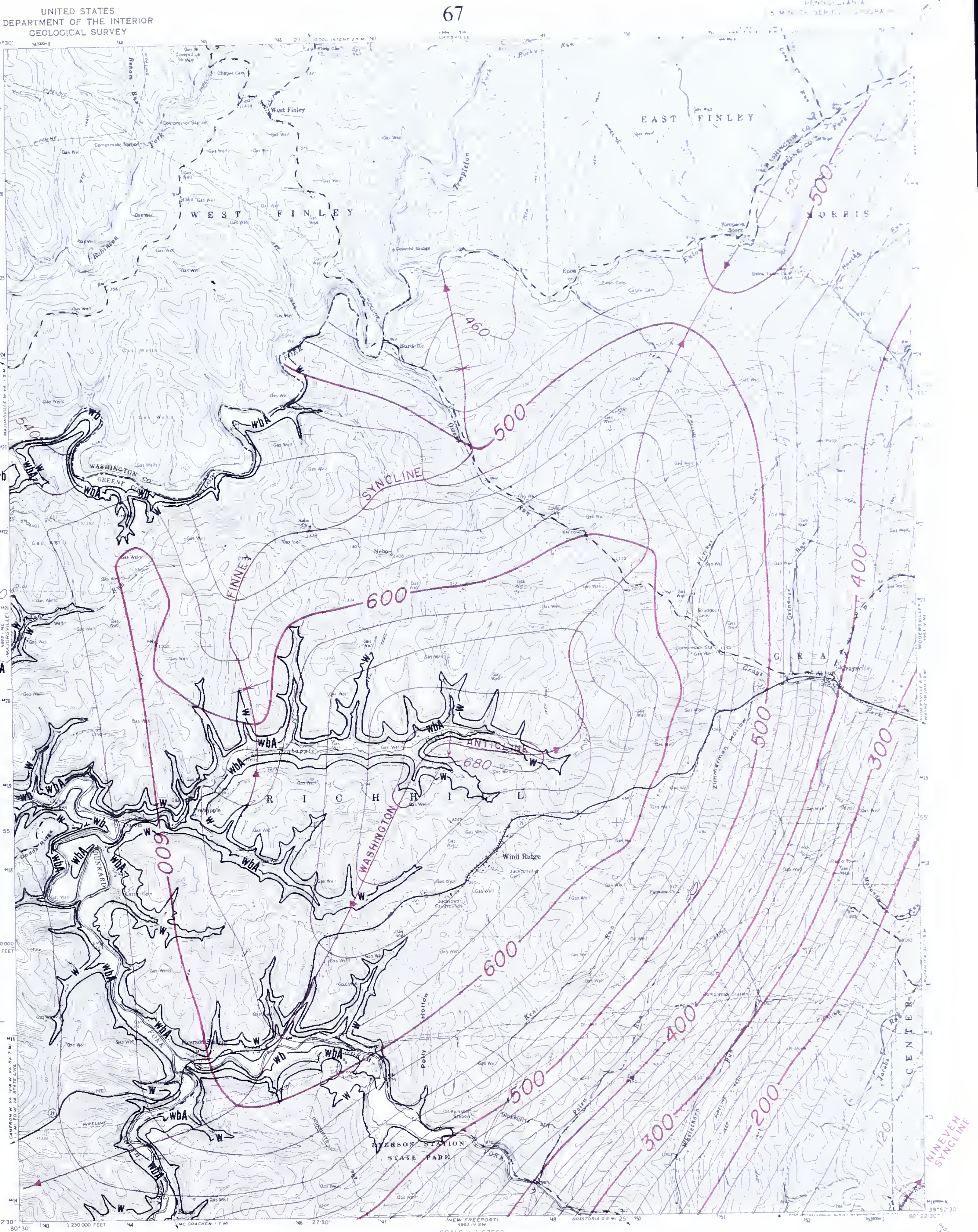
wb
Waynesburg coal

Anticline
Showing axial-plane trace and direction of plunge.

Syncline
Showing axial-plane trace and direction of plunge.

—600—
Structure contour
Altitude of the base of the Pittsburgh coal, in feet above mean sea level. Contour interval 20 feet.

MAP RELIABILITY
Coal crop lines—good
Structure contours—good to very good



SCALE 1:62500
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SOURCES

Crop lines modified by A. D. Glover from Clapp, F. G. (1907), *Rogersville folio*, U.S. Geological Survey Geologic Atlas of the U.S., Folio 146, 14 p.

Structure contours modified by C. H. Dodge from unpublished map by Consolidation Coal Company (1981), and from Clapp (1907).

ROAD CLASSIFICATION
Heavy duty
Light-duty
Medium-duty
Unimproved dirt
State Route

PENNSYLVANIA
QUADRANGLE LOCATION

COAL CROP LINES AND STRUCTURE CONTOURS

WIND RIDGE

ISBN: 0-8182-0055-3